

THE MILLING WORLD

AND

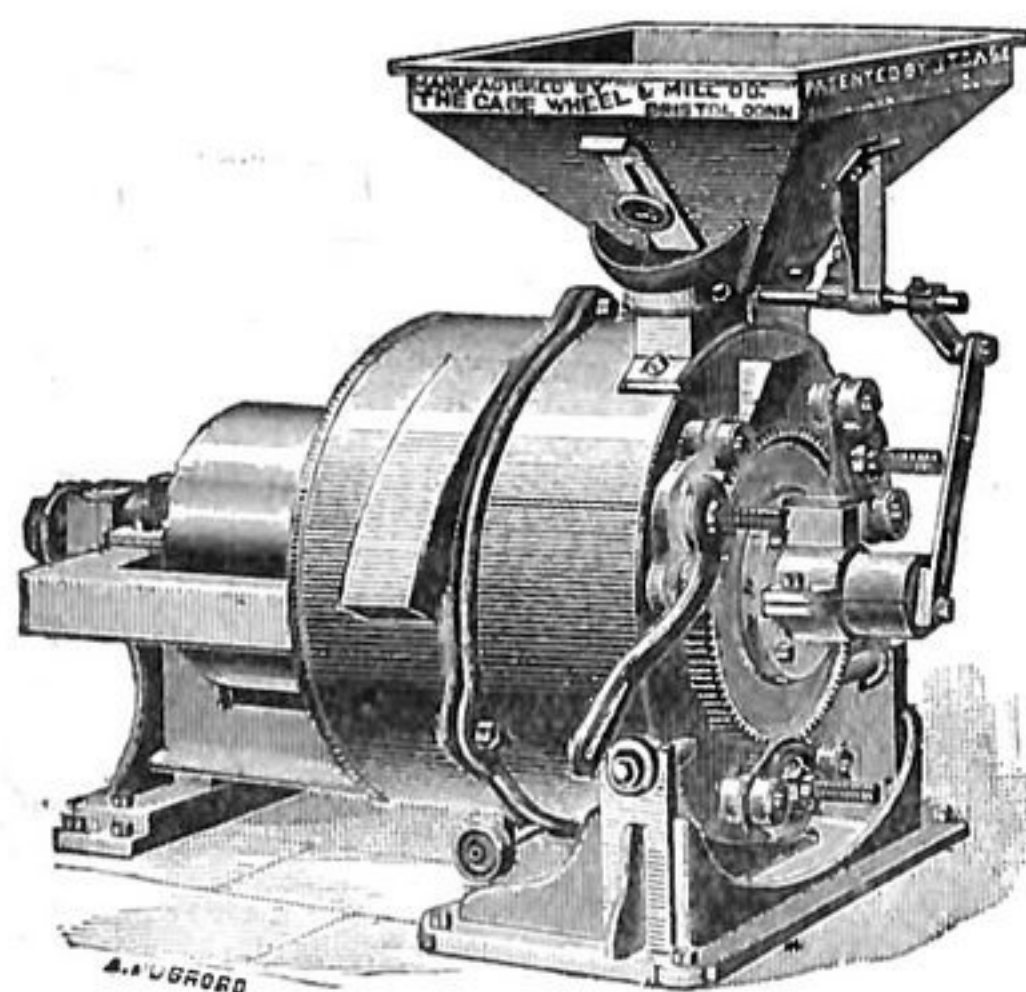
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XX. No. 9.

BUFFALO, N. Y., APRIL 29, 1889.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS.

(J. T. CASE'S PATENT.)

FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.

"Superior to any mill in use."—Geo. WESTON, Bristol, Conn.

"The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.

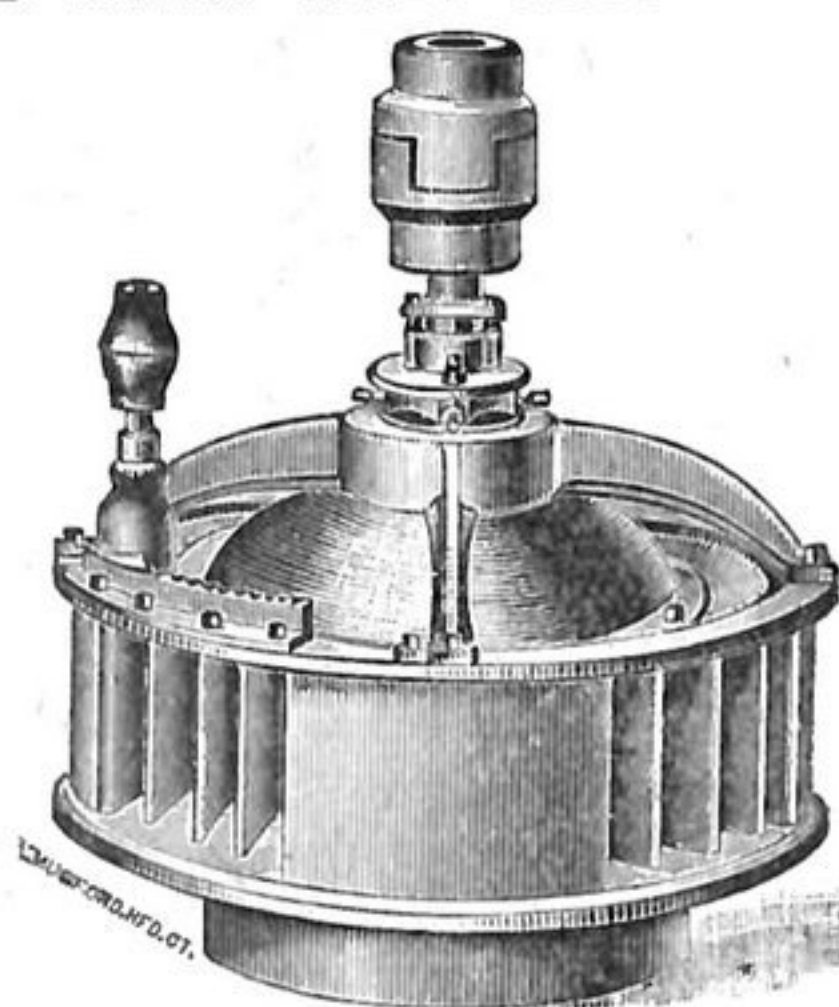
"We take pleasure in recommending it."—GARLAND LINCOLN & Co., Worcester, Mass.

SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

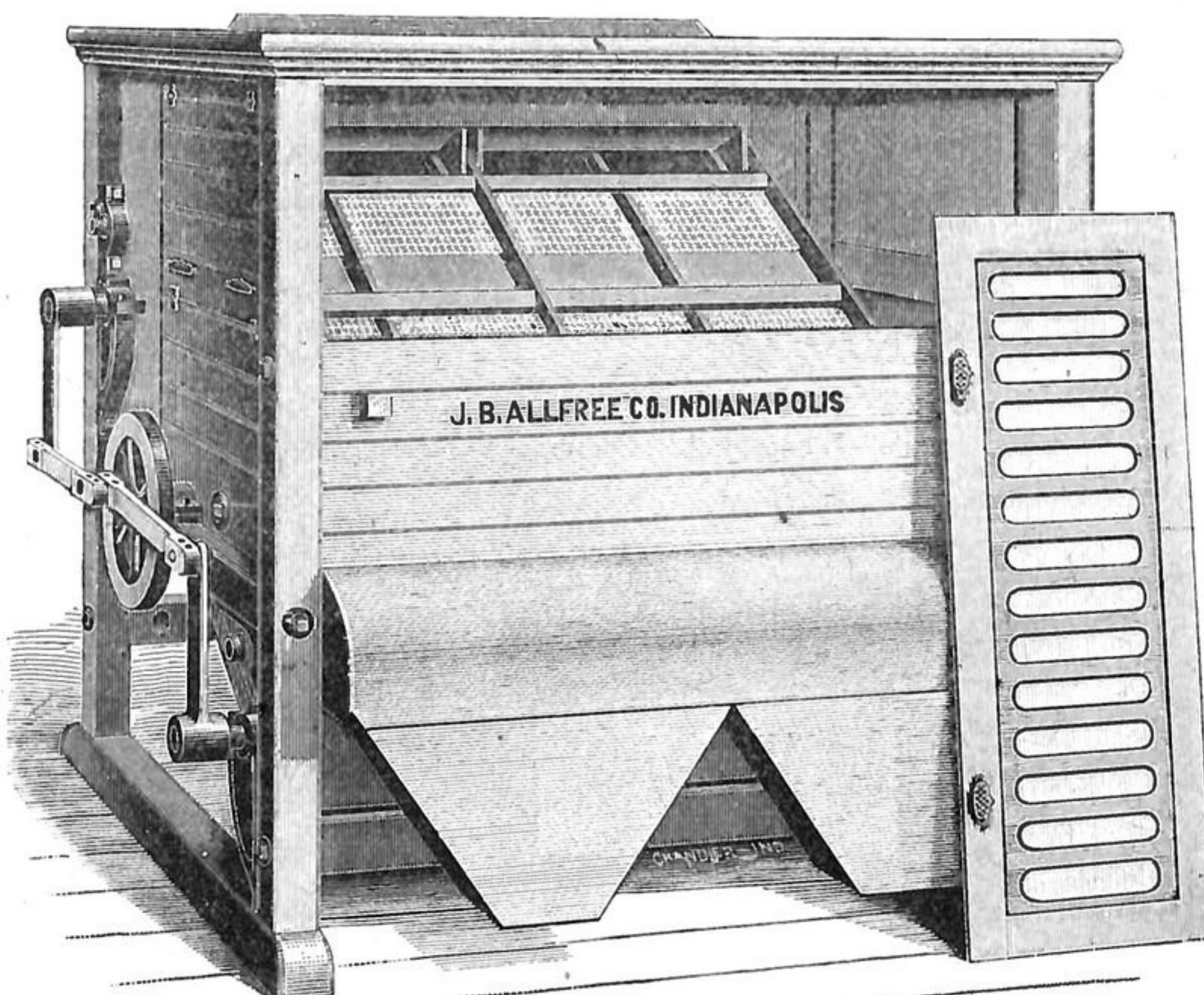
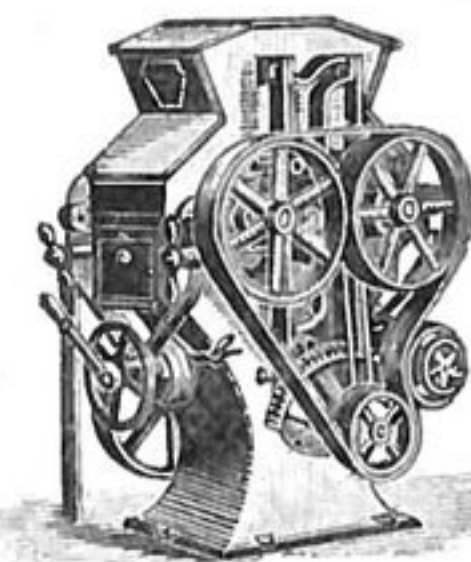
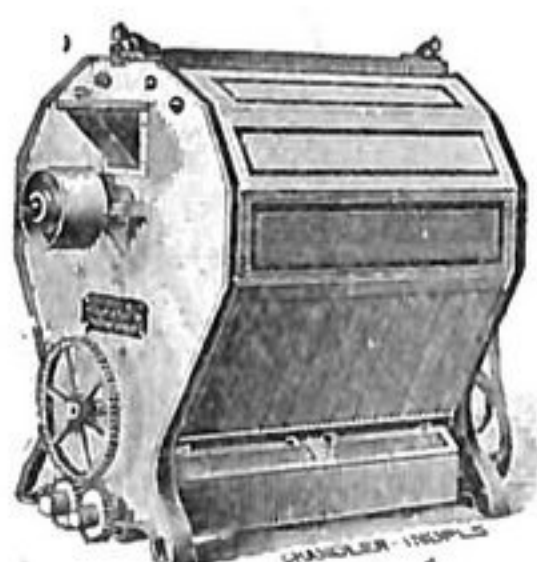
The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.

The Case Wheel & Mill Co., Bristol, Conn.



THE ONLY NOISELESS SIEVE SCALPER.



Immense Capacity.

Power

Required

Merely

Nominal.

It will Take Care of
3 or 4 Breaks in a
100-Barrel Mill.

Buy our Scalpers and
thus avoid the terri-
ble racket made by
other machines; ours
is Noiseless.

It will Take Care of
1 Break in a 500-
Barrel Mill.

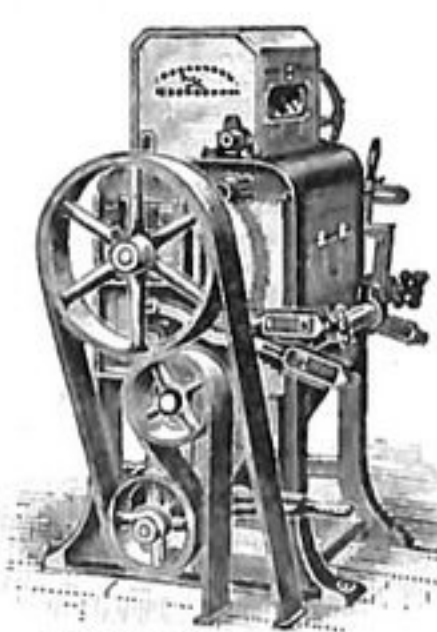
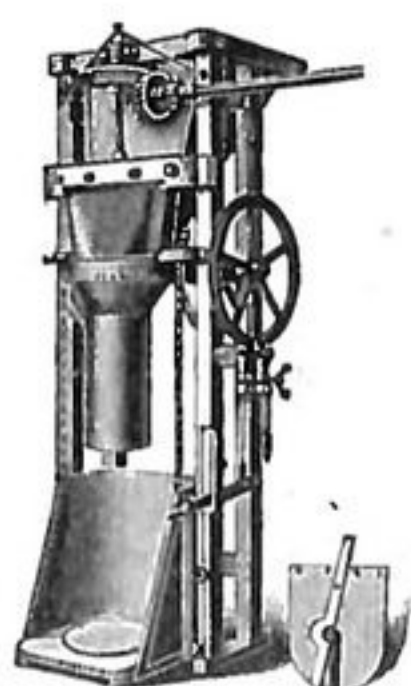
The J. B. Allfree Sieve Scalper.

—ADDRESS FOR PRICES, ETC.—

The J. B. Allfree Co., Indianapolis, Ind.

Mill Builders and General Mill Furnishers.

DUFOR BOLTING CLOTH A SPECIALTY.



Some Millers' Opinions

EXPRESSED THIS YEAR, 1889.

SHREVE, O., Jan. 25, 1889.
THE CASE MFG. CO.

Gentlemen: We called at Bank Jan. 22d and paid our last note, which we believe closes our dealings so far as our contract with you for remodeling our mills is concerned. We want to say that we are entirely satisfied with all our dealings with you. Our mill is all we could expect, and is doing us good work. Extending to you our best wishes, we remain,

Very respectfully yours,
FOLTZ & BRENNAN.

WAVERLY, O., JAN. 27, 1889.
THE CASE MFG. CO.

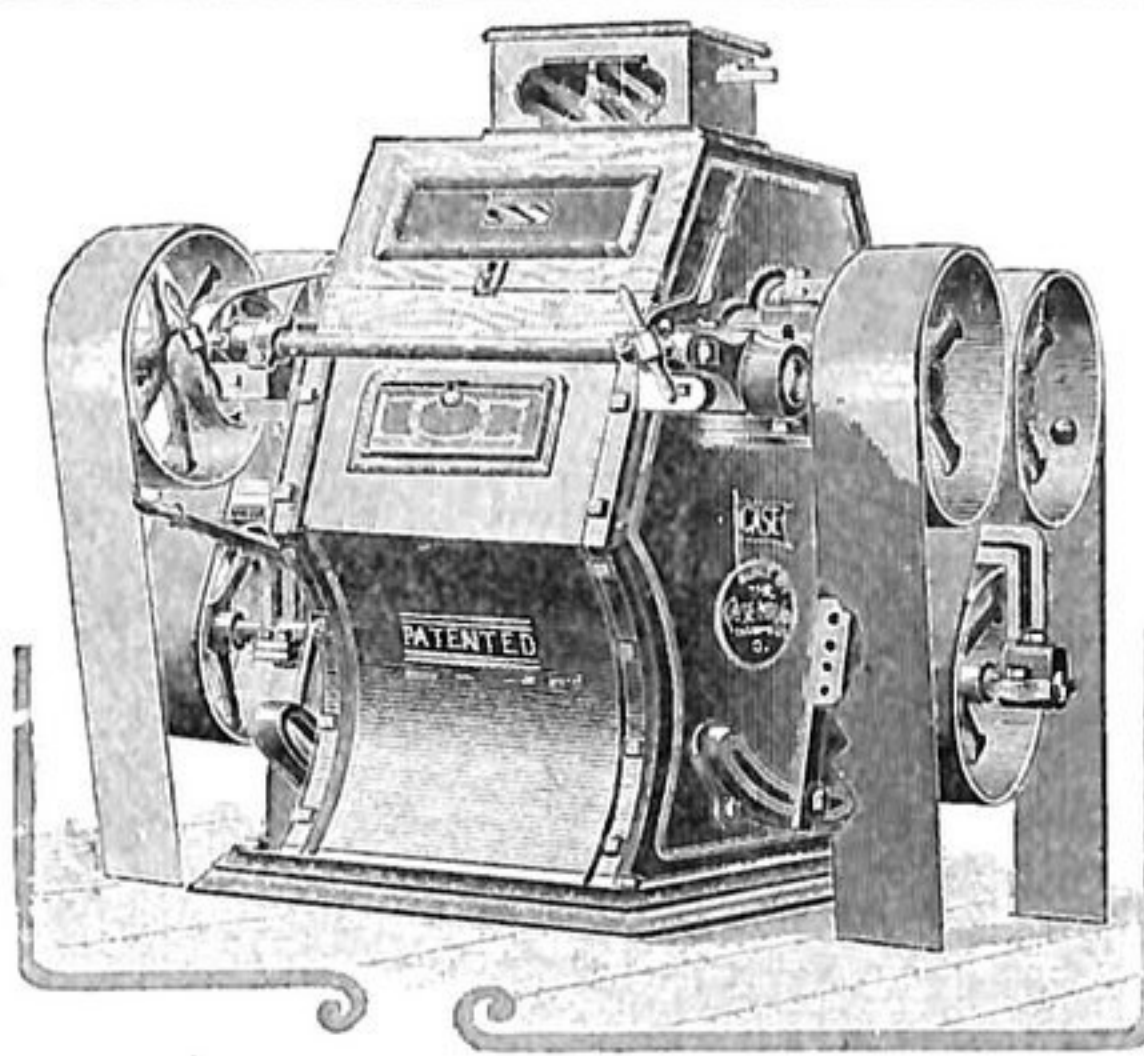
Gentlemen: Although it has been but a few weeks since I have gotten my Waverly Roller Mills started as recently re-furnished with your system of breaks and rolls, yet I have already learned to my satisfaction that your outfit of milling machinery is the best in use to-day. I am now making a grade of flour that is equaled by few and excelled by none, in fact superior to any flour produced in this part of Ohio, and is fast distancing all competitors in the market. I can conscientiously recommend you as General Mill Furnishers.

Yours truly,
JAS. EMMETT.

E. M. NEWTON. D. B. SMITH. G. TERRY.
OFFICE OF GUTHRIE MILL CO., }
GUTHRIE, KY., Feb. 26, 1889. }
CASE MFG. CO.

Gentlemen: Yours of the 20th to hand and in answer to inquiry about the five Inter-Elevator Flour Dressers bought of you will say that they are working perfectly satisfactory, and we regard them as being the best bolts we have ever seen, and if we had to build another mill, would use no other. We will take pleasure in showing and recommending them to any one who may be in need of a Flour Dresser. Wishing you much success in the future, we remain,

Yours truly,
GUTHRIE MILL CO.,
By E. M. Newton.



The Gem Roll of the World.

LEONIDAS, MICH., Feb. 4, 1889.
THE CASE MFG. CO.

Gentlemen: In reply to yours of the 31st ult., as to how I liked your machinery, would say I have a 3-break mill using 3 double stands of 6x18 Case rolls, one double stand of 6x15 rolls made by another firm. We started our mill September 1, 1888, and I must say *your rolls are more than you claim for them.* They started from the word "go." Not a single "hot journal," or any thing else to cause any trouble in the least. The other stand has been a continual bother from the start, running hot, and the feed would not work only in bunches, and let me say right here *that they cost me more money than the Case did.* and I mean in the near future to displace it by a Case. Your feed is *simply perfect.* It feeds even the full length of the rolls, and the beauty of all is we can stop and start the Case Rolls without touching a single lever; the other stands wants two men to stop and start. I also have a double stand of 9x18 Case rolls for feed. It does good work with half the power a 36-inch buhr took for same amount of work. Should you wish to send any parties here to see my mill at work, I can prove to them all I have said. With very best wishes to the Case Company, I am, very respectfully yours,

GEO. ENGEL,
Successor to Espenhain & Engel.

WE BUILD NONE BUT FIRST-CLASS MILLS

AND WILL GUARANTEE

Each Mill We Build to Produce Results Excelled by None

COMPLETE LINE OF MILL SUPPLIES AT LOW PRICES.

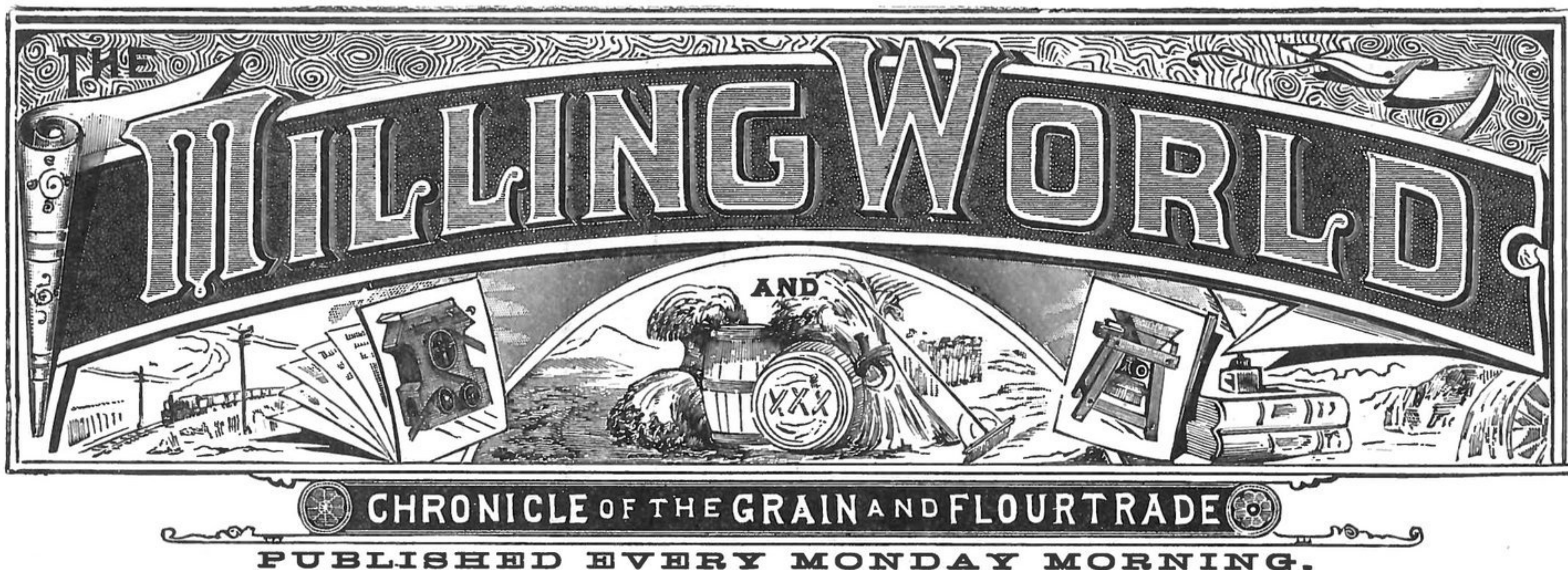
We have the most Complete Plant for Regrinding and Recorrugating Rolls, and put in Any Style Cut Desired.

MACHINE WORK OF ALL KINDS DONE PROMPTLY.

—ADDRESS—

THE CASE MFG. CO., COLUMBUS, O.

PLEASE MENTION "THE MILLING WORLD."



Vol. XX. No. 9.

BUFFALO, N. Y., APRIL 29, 1889.

\$1.50 PER YEAR.

FOUR whole months of 1889 have come and gone, and not one "revolution in milling" has yet been recorded. Was it lost to the inventors of the United States and Europe?

SEEDING reports indicate work nearly finished in the spring sections, the ground in good shape, the acreage large, and the general conditions favorable. The bull liars are reporting all sorts of discouraging conditions, and the bear liars are reporting all sorts of favoring conditions, but letters from wheat-growers in many localities show good average conditions.

WHATEVER the programme may be for the Milwaukee convention of the Millers' National Association in June, it will be very difficult to break the Buffalo record in the matter of entertaining the visitors. The memory of the royal entertainment by the millers of Buffalo is still vivid, and the Milwaukeeans must begin early, plan wisely and spend liberally in order to avoid the liability of "ojious" comparisons. The rest of the programme may be as destitute of profit or interest as a chinch-bug is of philanthropy, but the banquet must be up to the notch. Messieurs Milwaukeeans, you have the "flure." What are you going to do, and how are you going to do it?

ANNEXATIONIST sentiment in the Dominion of Canada is said to be growing rapidly less. The same thing may be said concerning commercial union, unrestricted reciprocity and other forms of free-trade sentiment in the United States. Probably it would be nearer the truth to say that there is no sentiment at all on that subject this side the border. The American grain-growers, millers and farmers are solidly opposed to the opening of their markets to unrestricted competition with any country. Erastus Wiman may wrap up his pamphletical chestnuts and will them to his great-great-grandchildren, for use in the far-away future, when annexation shall have become the desire of the Canadians.

FRENCH millers now have among them a real, live, go-ahead, ingenious, enterprising, brainful milling engineer, Mr. J. Murray Case, formerly of the well-known Case Manufacturing Company, of Columbus, Ohio. We shall expect to see Case roller mills multiplying rapidly in La Belle France from this date onward. French milling, in consequence of miserably poor native wheat, dear imported wheat and generally disadvantageous tariff and other regulations, is in a bad way at present, and its disadvantages are considerably intensified by its own backwardness, its lack of modern appliances, and its devotion to old-time, old-fashioned and inefficient systems, methods and appliances. Mr. Case is abundantly qualified to help the French millers out of the rut in which they find themselves.

It is to be hoped that the executive committee of the Millers' National Association do not really intend to use the Milwaukee convention in June next as an instrument to force the recently formed local, state, spring and winter wheat associations into the National Association. Compulsory membership will not help the National body. It can not

lift itself by its boot-straps nor create effective fair winds for its own sails by a bellows located abaft. An attempt to force the minor organizations into the National will inevitably result in a general collapse. The old National bottle would burst if filled with the new wine of the younger organizations. Whatever goes into the National seems to die there at once. It is no place for the spring-wheat association, the winter-wheat association, or any of the lesser associations.

UNBROKEN silence in Manitoba over the wheat-crop failure of 1888 does not cause any outsider to lose sight of the fact that that failure was disastrous. The British grain market quotations generally and generously place "Canadian" on the lists, but opposite the word "Canadian" or "Manitoba," in place of the price in shillings and pence, is printed the word "none." It is safe to assert that if in Manitoba there were in existence 1,000,000 or 2,000,000 bushels of fine wheat, some of it would have found its way to the London, Glasgow and Liverpool markets. The Manitoba boomers should engage Erastus Wiman to make a few "startling" discoveries in the interest of Manitoba. As a "startler" Erastus is a howling success. He would doubtless be able to discover banana trees, pineapple plants and cocoa-nut palms in Manitoba, with diamond mines and eternal midsummer thrown in for good measure.

PROFESSOR William Jago, of Brighton, England, tells the British millers and bakers some very strong truths in his recent paper on "Single Wheat Milling," which he read at the Liverpool meeting of the bakers and confectioners. His hearers, with true British conservatism, "jumped onto" him and attempted to ridicule his position, but the facts he gave are not to be overthrown by ridicule or unreason. He is right, and the bakers and confectioners and millers of Great Britain know that he is right. The millers and bakers of the United States, Austria-Hungary and other countries, in which high attainments in milling are admitted, know that he is right. Accurate knowledge of the varying chemical composition of different flours, of inherent differences in wheat from different parts of the world, and of the behavior of single and mixed flours in doughing and baking gives Professor Jago the right to speak with positiveness, and he speaks for "single-wheat milling," the only logical, reasonable, scientific milling possible. His opponents, speaking purely from the pocket-book standpoint, of course do not speak wisely, logically, or reasonably, however positively they may speak. Mixed-wheat milling has been the curse of British flour-makers and bread-bakers from the start, and it will continue to be their bane so long as they refuse to work on a reasonable method. Probably from the standpoint of the American flour-makers it is quite as well that the British millers should go on trying to make good, strong, sound, reliable flour out of a mixture of poor, weak, unsound and dubious wheat, as by that means they will perpetuate the market in Great Britain for enormous quantities of fine, pure, strong, homogeneous, reliable, single-wheat flour. So long as the British Ephraim sticks to his idols, so long the Yankee miller will stick to the British market.

COMPOUND Condensing or Non-Condensing.
16 SIZES, 5 to 500 H. P.
Not yet equaled by any form of Engine for
HIGH FUEL DUTY AND SIMPLICITY.

STANDARD 13 Sizes in Stock.
5 to 250 H. P.
3000 in use in all parts of the Civilized World.

JUNIOR 6 Sizes in Stock,
5 to 50 H. P.
An Automatic Engine cheaper than a Slide Valve.
WELL BUILT. ECONOMICAL. RELIABLE.
Over 300 Sold the First Year.

All the above built strictly to Gauge with
INTERCHANGEABLE PARTS.
REPAIRS CARRIED IN STOCK.
SEND FOR ILLUSTRATED CATALOGUES.

**WESTINGHOUSE
ENGINES**
The Westinghouse Machine Co.
PITTSBURGH, PA. U.S.A.

**SELLING DEPARTMENT IN THE
UNITED STATES.**

New York,	17 Cortlandt St.	Westinghouse, Church, Kerr & Co.
Boston,	Hathaway Building,	
Pittsburgh,	Westinghouse Build'g,	
Chicago,	156, 158 Lake St.	
Philadelphia,	608 Chestnut St.	M. R. Muckle, Jr. & Co.
St. Louis,	302, 304 Washington Av.	Fairbanks & Co.
Kansas City,	312 Union Avenue,	
Denver,	1330 Seventeenth St.	
Omaha,	1619 Capitol Avenue,	F. C. Ayer.
Pine Bluffs, Ark.		Geo. M. Dilley & Sons.
Salt Lake City,	259 S. Main St.	Utah & Montana Machinery Co.
Butte, Mont.	L. Granite St.	
San Francisco,	21, 23 Fremont Street,	Parke & Lacy Co.
Portland, Or.	33, 35 N. Front St.	Parke & Lacy Mch. Co.
Charlotte, N. C.	36 College St.	The D. A. Tompkins Co.
Atlanta, Ga.	45 S. Prior St.	
Dallas, Tex.		Keating Imp. & Machine Co.
Chattanooga, Tenn.,		C. E. James & Co.

Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

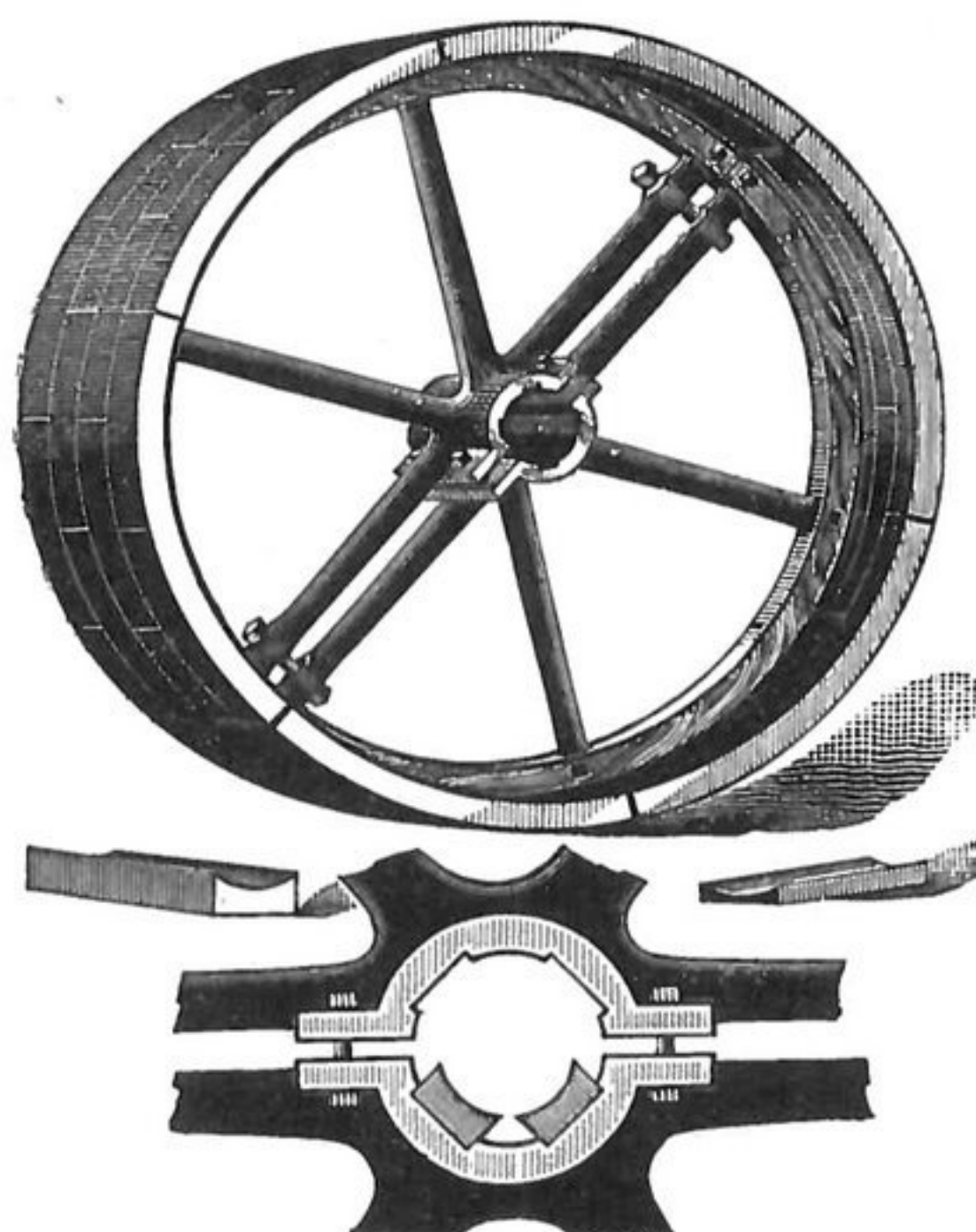
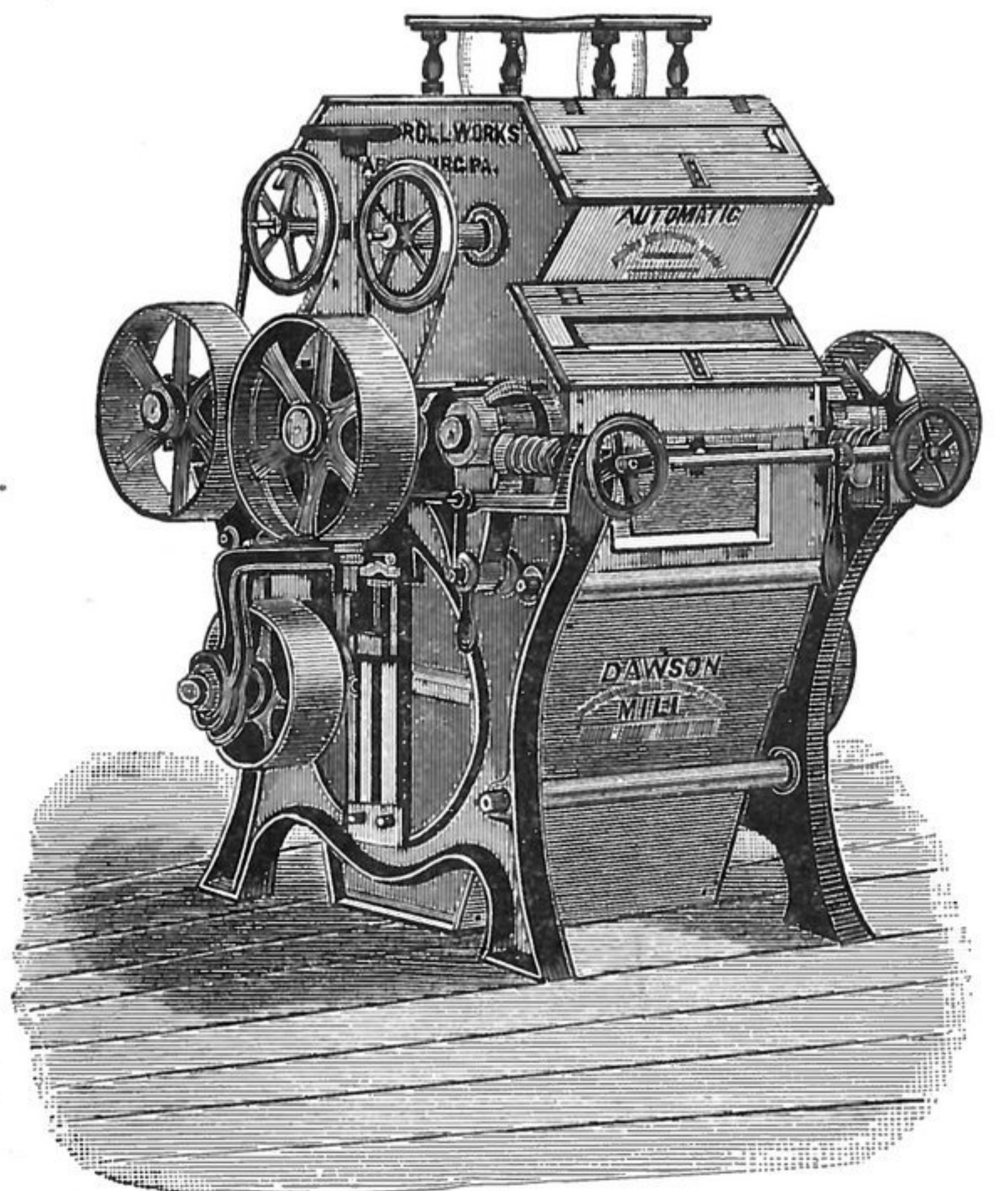
We have a large plant to Re-grind and Re-Corrugate Rolls.

Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.

FOR PRICE LISTS AND CIRCULARS, ADDRESS,

Dawson Roll Works, Harrisburg, Pa.



BIRD & CRANE MFG. CO., KALAMAZOO, MICH.

MANUFACTURERS OF PATENT

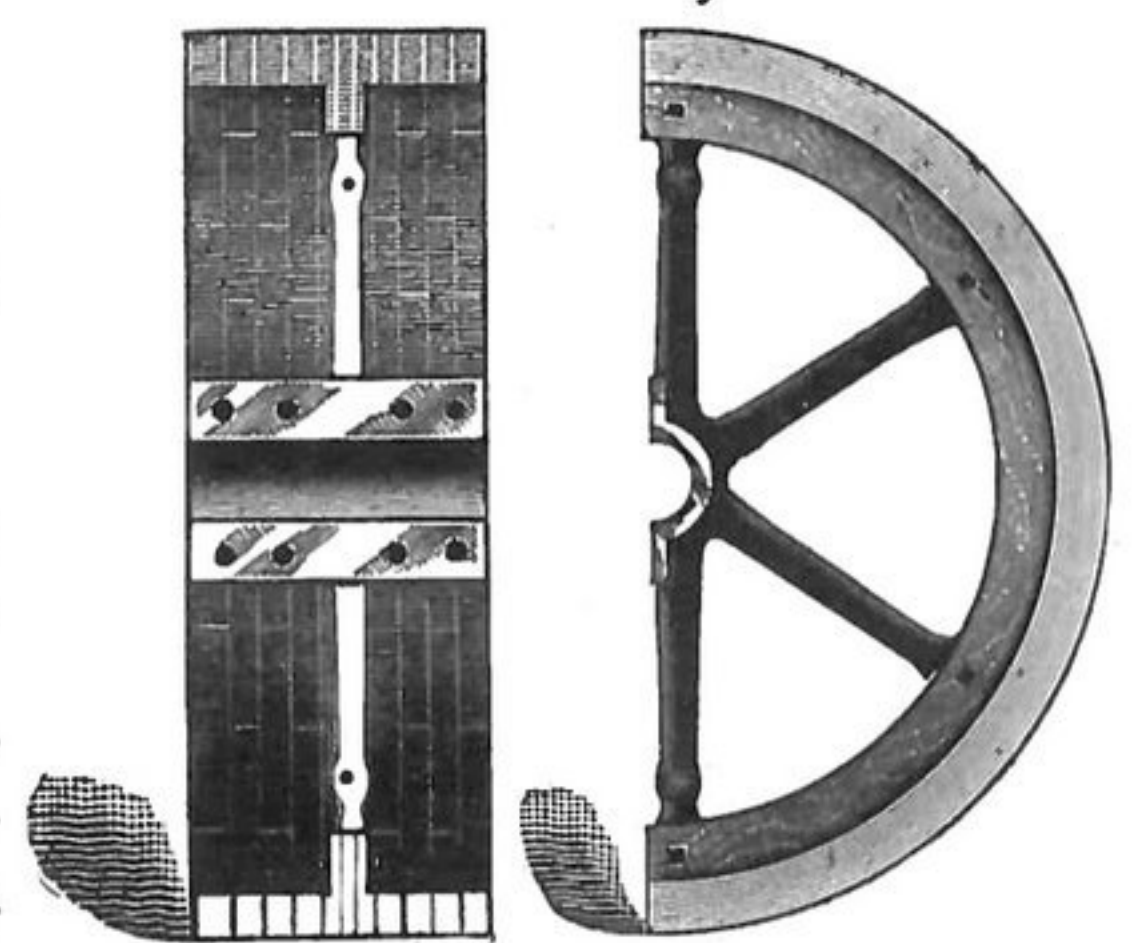
Wood Split Pulleys

WOOD RIM WITH IRON ARMS.

The Best Pulley on Earth!

Is very easily and quickly adjusted to Shaft. Has Patent Iron Bushings Interchangeable, to Fit Different Diameters of Shafts. Has FOUR or SIX Bearings on Shaft. This fastening never slips. Every Pulley strongly built and perfectly balanced.

SEND FOR CATALOGUE AND PRICE LIST.





PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Over Bank of Attica.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in un-registered letter at sender's risk.

To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning, to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trades.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

BUCKWHEAT MILLING A SPECIALTY.

A reliable Roller Miller wants work. Can make one-third more buckwheat flour than average millers, conditions the same. Granulated meal, etc. H. N. Z., 228 James street, Buffalo, N. Y. 710

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

MILL FOR SALE.

Flour mill; water power; good location; on easy terms. For information address, THOS. BRODERICK, Byron, Olmsted County, Minn. 611

FOR SALE OR RENT.

Grist-Mill and Woolen Factory. Also large two-story frame building. Very convenient for woodenware works. Good water power and shipping point, on line of three railroads. Apply to M. D. OLNEY, Irvine, Warren county, Pa. 811

MILL MACHINERY FOR SALE.

One 24-Inch Portable Mill, wood frame, capacity 15 to 20 bushels per hour; new, best make.
One 20-Inch Portable Mill, iron frame, capacity 12 to 16 bushels per hour; new, best make.
One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Vertical Portable Mill, French Buhr Stone, hung on horizontal shaft; capacity 25 to 40 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
One No. 1 Scientific Corn Mill.
Four No. 4 Scientific Feed Mills, Style K.
Two No. 4 Scientific Feed Mills, Style L.
One Double Roller Mill, 6x18, corrugated. Best make. New.
Two No. 1 Corn Shellers. New.
Two 12-inch 4-roll Rickerson Roller Mills. Smooth. New. Best make.
One No. 2 Purifier. New. Best make. A bargain.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf



If you are desirous of obtaining the best Mill or Cob Crusher, send for our catalogue and be convinced that our's fill the bill. Can not fail to please you. They are guaranteed to prove as represented.

C. C. PHILLIPS,
OFFICE, 20 SOUTH BROAD STREET,
PHILADELPHIA, PA.

NEVER-FAILING WATER-POWER FOR SALE OR TO LET.

Situated at the junction of two rivers, 95 miles from New York City, on the West Shore Railroad. Mill site against track. A NATURAL ROCK DAM with from one hundred to one thousand horse power. Railroad siding on premises. Station, post and telegraph offices in sight. Factory employees to be had at low wages. Further particulars given by addressing.

HOWARD FINGER, - - SAUGERTIES, N. Y. 411

FOR SALE.

One half or whole, or to rent, a first-class 4-run mill; stone building; never failing water power; good custom and retail trade Address, N. R. SHEPARD, Marcellus, Onondaga county, N. Y. 11

FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

8tf FLENNIKEN TURBINE CO.,
Dnbuque, Iowa

SEVERE winter conditions undoubtedly damaged a good deal of winter wheat in the best regions of Russia. Recent reports state that the plant does not show signs of health and vigor that promise good things at harvest.

CHAIRMAN Smith, in his letter to the executive committee of the Millers' National Association, mentions the "prime" object of the Milwaukee meeting. We fervently hope the "prime" object will not be Prognosticator S. T. K. Prime and his little prophetic bull report. Once in one year in a million eternities is enough of that sort of thing!

DOWNWARD the course of wheat prices takes its way. Downward the course of reserves takes its way. Downward the course of the visible supply takes its way. "Downward" is seemingly written over the face of every thing connected with the grain and flour trade, even at a time when all the conditions ought to mean "upward." There may be a "bottom" somewhere down there, but it fails to come to sight yet. Probably it may be hit when least expected and send the rebounding prices skyward at a terrific speed and to an abnormal altitude.

PARTICULAR attention is called to the new advertisement, in this issue, of the famous Westinghouse engines, manufactured by the well-known Westinghouse Machine Company, of Pittsburgh, Pa. Among these engines are the "Compound," condensing or non-condensing, from 5 to 5,000 horse-power, the "Standard," from 5 to 250 horse-power, and the "Junior," from 5 to 50 horse-power, all built strictly to gauge, with interchangeable parts. No user of steam-power should fail to send for the illustrated catalogues of the makers of these high-grade engines. Thousands of the Westinghouse engines are in use in all parts of the civilized world, and everywhere they give the most satisfactory service. Address the Westinghouse Machine Company for their illustrated catalogues.

ANTI-RAILROAD lunatics in Minnesota, Nebraska, Iowa and other western States are finding out that their meddling with the private business of the railroads, together with the meddling of the government at their request, is working them damage where they foolishly expected profit. The railroads, hedged on all sides by intolerable interference, by arbitrarily imposed freight and passenger rates and by all sorts of idiotic regulations and threats of fine and imprisonment, have been forced to reduce their service very largely, and as a consequence the complaining and avaricious public gets less service, gets no reductions in rates worth mentioning, receives no higher prices for produce, is not made any more independent of competition between business centers, and is in no way benefited by the fool-law. The western railroad managers generally obey the law to the strict letter, and now their friends the enemy complain that they do not obey the law so as to benefit the public, as they might do and would do if they were something more than human. The opponents of the railroads are learning a valuable lesson this year. The advocates of meddlesome interference by the government are learning some things they did not know before. Let the good work of education by costly experience go on.

THE CASE INTER-ELEVATOR FLOUR DRESSER.

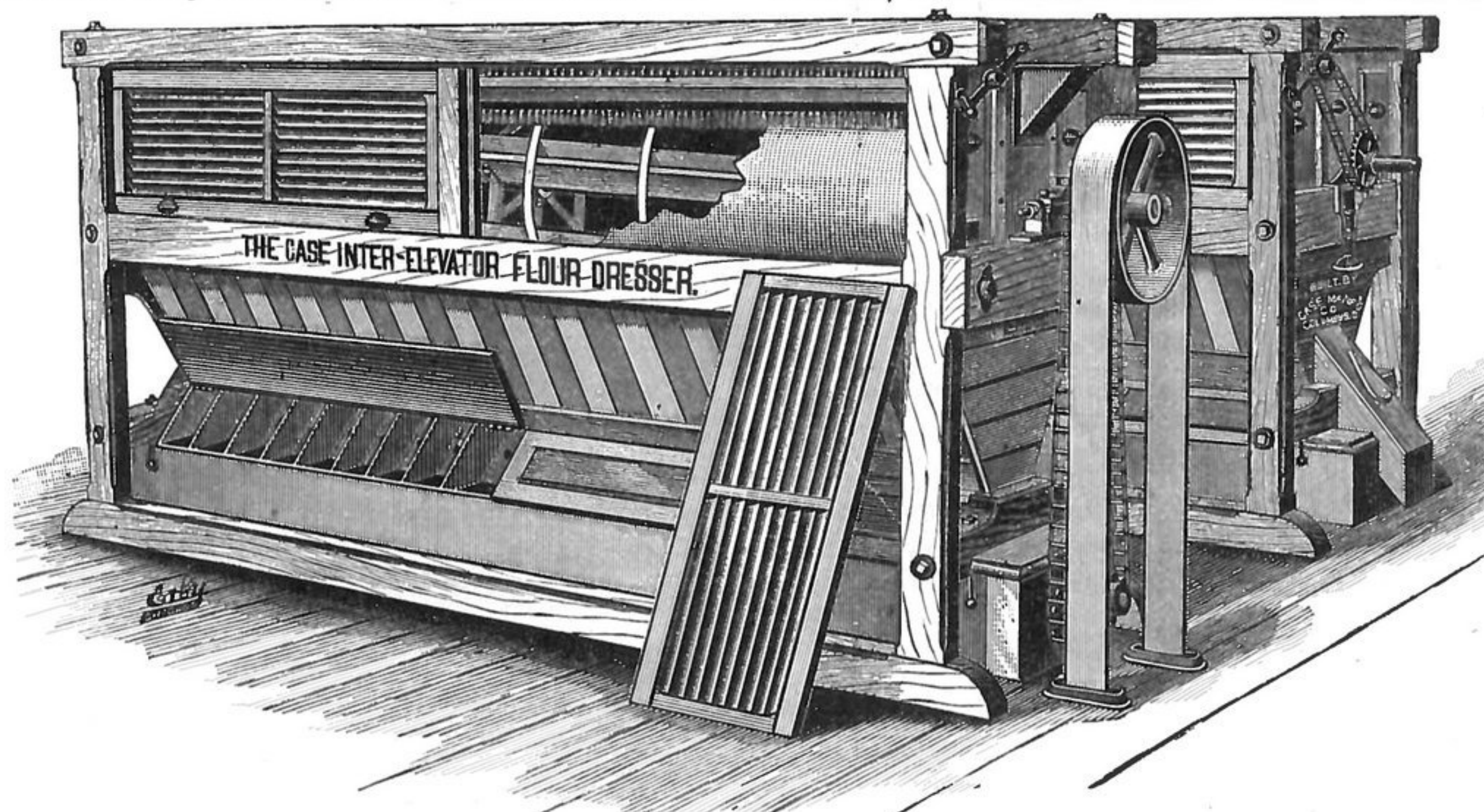
We presume that the majority of the numerous readers of THE MILLING WORLD are already familiar with the fine flour-dresser illustrated herewith and manufactured by The Case Manufacturing Company, of Columbus, O. To those who are not, we would recommend that they give the merits of the machine careful consideration and thoroughly investigate the claims set forth for it by the manufacturers, before placing their orders for bolting machinery. A just comparison of the different bolting-devices on the market is the only proper way to settle which is the best, and in justice to millers there should only be eventually a "survival of the fittest." With the acknowledged close margins in milling, millers have no money to waste on imperfect, wasteful or experimental bolting-devices. What they must needs do before purchasing is to settle on the most economical and reliable machine, one that will not go back on them when they balance up their profit and loss account. By an economical machine, do not understand that we mean one that costs the least money at the start; they are oftentimes the most expensive in the

end. A machine that will run with the least power, waste the least stock, require the least attention to run, and the least amount of repairs is what we denominate as economical. A fine-looking machine with expensive attachments very often deludes millers into purchasing, but a few months' wear and tear from actual use, with the little attention which falls to the lot of most machines from an overworked miller, usually is sufficient to reveal to him the fact that simplicity is the soul of mechanism. In no class of machines is this more necessary

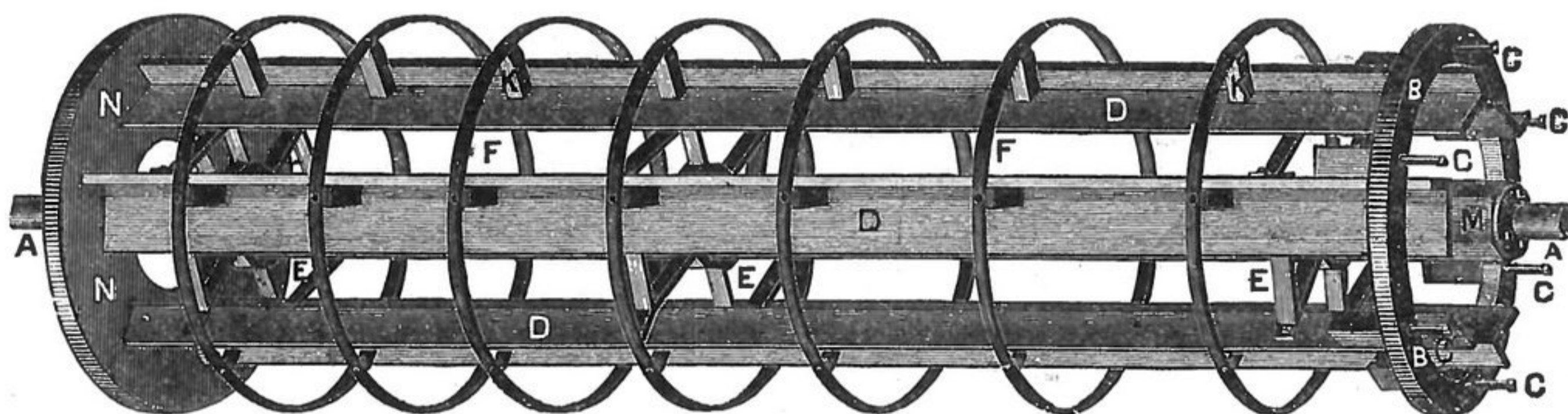
than in milling machinery, and we surmise that the great popularity which the entire line of machinery made by the Case Manufacturing Company now enjoys is owing in a great degree to the fact that they are simple in construction and always ready to do their work when called upon. The manufacturers make the following statement in reference to their Inter-Elevator Bolt: "We desire to call attention to our Inter-Elevator Flour-Dresser, which we introduced to the milling public something over a year ago. No machine ever offered to millers has received a more hearty endorsement at their hands than our slow-motion Inter-Elevator Reel. We had spent much time and money experimenting with various kinds of machinery, devised by others as well as ourselves, and had abandoned them all as imperfect and unreliable bolters. Feeling convinced that a slow-motion reel was the best adapted for bolting nearly all kinds of stock, for reasons which we will state later on, we set about perfecting this style of reel, and the result is illustrated by the accompanying cuts, which will convey to the reader the essential principles of the machine. The most prominent feature of the reel is of course the series of inter-elevator

buckets, which extend the entire length of the reel. These buckets are secured to the iron spiders at just the proper angle to catch and carry up the stock on the ascending side of the reel and discharge their contents against the cloth upon the descending side, causing a continuous sheet of the stock to fall gently upon the very part of the cloth, the entire length of the reel, which in the old-style round or hexagon reels does no bolting whatever. As will be readily seen, the increase in the capacity by such an arrangement is very great, as it enables us to use for actual bolting about two-thirds of the entire cloth surface. Another feature of our inter-elevator reel is that the stock is all treated alike. Each elevator takes up a portion of the stock and carries it entirely over to the other side of the reel, so that the entire contents of the reel are kept in a continual but gentle state of agitation, thoroughly mixed, and as a consequence each particle must come in direct contact with the cloth at some point or another. This insures an even bolting, which is of great importance. Having stated what our flour-dresser will do, we will now state what it will not do. It is not a

violent or force bolter, like the centrifugal reel, and will not drive and beat through the cloth the specks and coarser particles to the great injury of the finished stock. We desire especially to emphasize this point, as millers oftentimes wonder why their flour does not stand the tests at the hands of the brokers. Their rapid-motion centrifugal reels are to blame for the trouble in a great many instances. The mechanical adjustments of our flour-dresser are first-class. It has a speckless head. The tail of the reel



THE CASE INTER-ELEVATOR FLOUR-DRESSER.



REEL OF THE CASE INTER-ELEVATOR FLOUR-DRESSER.

- | | |
|------------------------------------|----------------------------------|
| A. A. Gudgeons on Reel Shaft. | F. F. Iron Hoops, Cloth Covered. |
| B. B. Adjustable Tail Ring. | K. K. Supports for Hoops. |
| C. C. Screws for Tightening Cloth. | M. M. Hexagon Reel Shaft. |
| D. D. Inter-Elevator Bucket. | N. N. Reel Head. |
| E. E. Iron Spiders, on Reel Shaft. | |

is movable and has a perfect and simple arrangement for stretching the cloth and keeping it tight. It has the finest tilting cut-offs, which can never get out of order. It takes but little power and, we claim, is the lightest running flour-dresser made. We make a specialty of furnishing our inter-elevator attachments for changing over old-style round or hexagon reels. We have changed over hundreds of reels and have received many testimonials as to the great increase in capacity and the more satisfactory results obtained. All that is necessary for us to know is the exact length and diameter of the reel and the diameter of the reel-shaft. We respectfully solicit correspondence to which we shall give our most careful attention. The Case Mfg. Co., Columbus, O."

COTEMPORARY COMMENT.

Oat clipping has been practiced for several years past, and the astonishing thing is that the matter seems to be a revelation to the oat "sharps" who were trying to run the market.—Chicago "American Elevator and Grain Trade."

The daily press and a couple short-sighted milling publications are doing their level-best to kill the Central Millers'

Association. In the meantime local and state associations throughout the section are voting themselves into it. It does not seem to occur to these journalistic malcontents that the "business" of the Central Association is not a matter for public report and belongs only to the membership.—*Indianapolis "Millstone."*

Many a young man who has started out in life under circumstances most discouraging, possessing few friends, without money or trade, has come out at the end of the race far ahead of his fellows, simply because he was a gentleman. It is astonishing to notice the lack of this desirable trait in young men at the present time. To dress well, go into society, smoke, drink and be able to tell good stories, seem to be the gage by which they measure a gentleman. But to be proficient in these, and lacking in the essential qualities that make every man a gentleman, is a poor standard to be governed by.—*Boston "Manufacturers' Gazette."*

The great United States, by her niggardly policy in appointing and remunerating her foreign representatives, has prevented much of the benefits possible to be plucked by the ingenuity and capacity of the great Yankee nation, but by her deplorable carelessness in the maintenance of her navy has lost more.—*Baltimore "Journal of Commerce."*

TRUSTS ARE FAILURES.

A. B. SALOM.

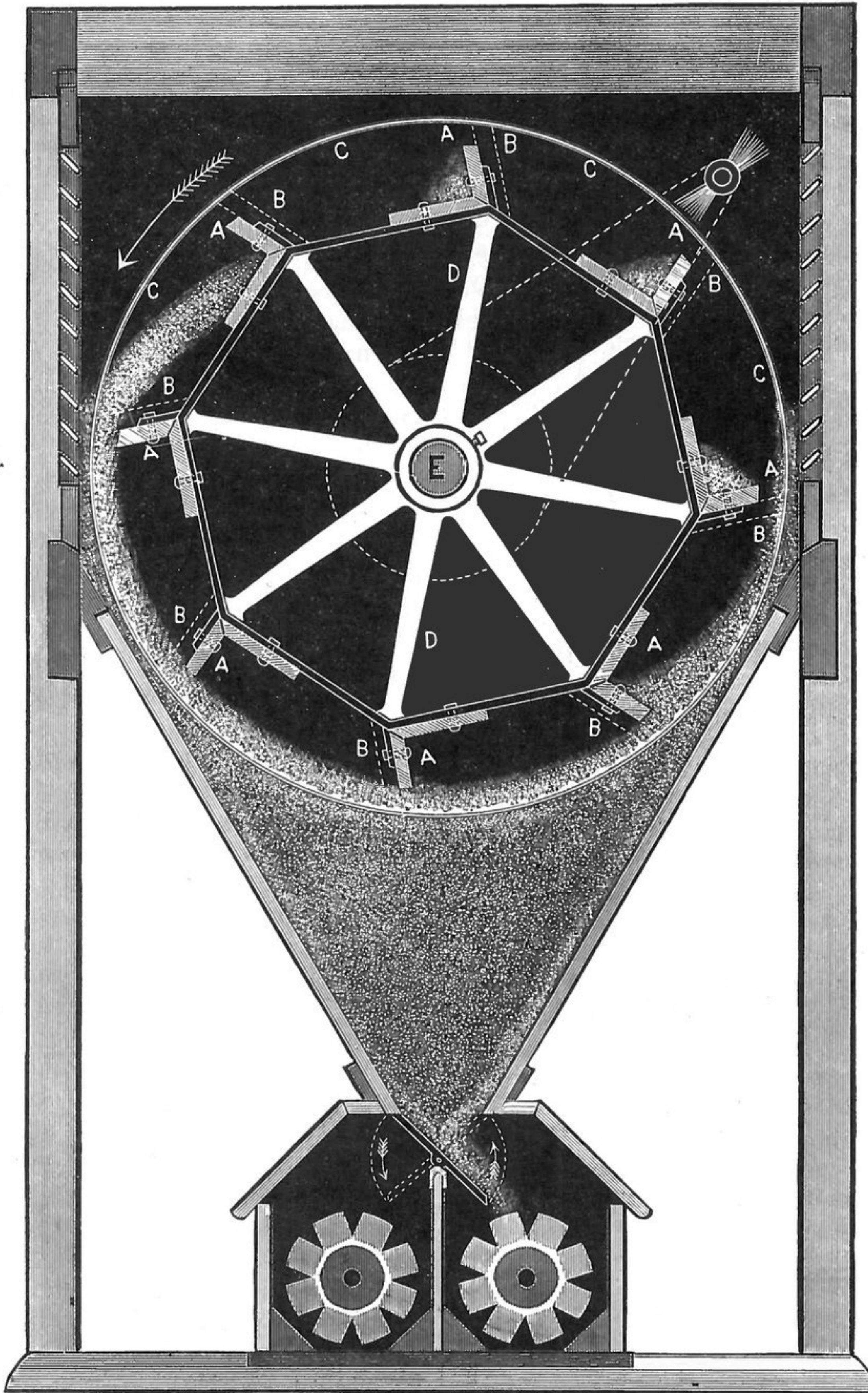
Agitation against trusts, pools and other forms of capitalistic combination has its origin in the fear of the consumers that the combinations will possess the power to wrong them, and that, having the power, they will mercilessly use it. That fear is expressed in almost every utterance of the agitators. The public is continually told that the Oil Trust will rob consumers by increasing the price of oil, that the Sugar Trust will do the same, and that the Coal Trust, the Iron Trust, the Lumber Trust, the Beer Trust, the Salt Trust, the Copper Trust, the Coffin Trust, the Clothing Trust, and all the other real or alleged trusts will repeat the robbery. These fearful, timid agitators do not attempt to reason on the subject. That is one thing they never do. Generally narrow, ignorant, prejudiced and weak in judgment, they grasp one idea, that large amounts of capital are dangerous when applied in any given line, and to that idea they cling until it has whirled them out on the broad sea of hobbies and crankism. A hundred trusts may collapse, but that fact would teach these agitators nothing. No real trust has ever succeeded, but that fact does not allay their fear. The laws of supply and demand forever assert their influence in making prices, but that is of no importance to them. They fear, and they fear blindly, unreasoningly and ignorantly.

What has ever been done by modern trusts to justify the fear or make good the assertion that they are powerful for evil? Where is there in existence to-day a single capitalistic combination that has absolute control of a given product, and that by virtue of that absolute control has arbitrarily increased prices to consumers far beyond the prices that prevailed before the control was secured? Where is there a combination that is not controlled in price-making by exactly the same influences that control the individual or the single firm in price-making? Over and over again the tiresome story of combinations and their evils is told, and yet the fact remains that great combinations of capital have on the whole benefited consumers in every important line. It requires great amounts of capital to utilize inventions, to cheapen transportation, to make telegraphy successful,

to manufacture sugar, steel, iron, fabrics and other staples cheaply, and the principal effect of such combinations of capital has been, not to increase the cost to consumers, but really to lessen cost too far and to make the labor employed receive less than it should receive, for generally the increase in cheapness is accompanied by a disproportionate decrease in the purchasing power of labor, as in Belgium, Germany, France and Great Britain to-day. So far as consumers are concerned, combination has given them cheaper wares in almost every department of production.

Combinations or trusts, while accomplishing this for consumers, are failures, so far as their own attempts and achievements are concerned. Every combination that has shown itself able to vanquish the individual competitor has sooner or later been compelled to compete with another combination, which it could not vanquish. It is this ever-present liability to competition that has checked whatever really evil and dangerous tendencies there may be inherent in combinations. As any part is less

than the whole, so any possible aggregation of capital in any one line of enterprise is sure to be less than all the possible aggregations of capital outside of that line, and it has only to become known that the capital in that line is earning large profits and conferring large powers upon its possessors, when the capital outside will begin to pour into that line in overwhelming floods. That movement invariably occurs under such conditions, and it is that tendency, that attraction, which will surely always make competition conserve the interests of consumers. The agitators should make a list of the really successful trusts of the past twenty years, and beside that list they should publish the almost endless list of attempted trusts that are forgotten failures. Such a list, supplemented by a



SECTIONAL VIEW OF THE CASE FLOUR-DRESSER.

showing of prices before and during the period of trusts, would do much to re-assure those timorous persons who imagine that capitalists are about to upset the laws of gravitation, disarrange the order of the seasons and thrust the universe back into chaos.

Conspicuous among the recent failures in the line of trusts is the French trust, or syndicate, that started out to corner the copper supply of the world. It had financial resources that were apparently endless. It proclaimed its aims to buy up all the stocks of copper in the markets of the world, to monopolize the output of all the mines and to control the price of that metal. The timorous agitators and the unthinking began their cry that consumers would be forced to pay higher prices, and that all sorts of evils would follow. If ever there were a combination calculated to inspire fear, the French copper syndicate was that combination. What is the event? For nearly two years that great trust has been in operation. From all parts of the world copper has flowed towards it. It has been forced to buy all that was offered. If it refused to buy, outsiders were ready to buy, and that would mean the defeat of the syndicate. Money was poured out for the copper that poured in. In a few months the great trust had been compelled to buy nearly 200,000 tons of copper. The world was against the trust, and as the capital of the combination was turned into copper and the supply seemed to be inexhaustible, the day of reckoning came. Supply and demand asserted their relations. Artificial prices could not be maintained. Prices sank. Panic followed, and inside of the two years the syndicate had put about \$78,000,000 into copper which, when the prices touched bottom, was worth only \$38,000,000. The great syndicate, the most impudent and gigantic of all modern trusts, was short \$40,000,000, and serious financial disturbances in France were averted only by assistance from the government and private bankers.

Evidently the way of the trust, the corner, the combine, is not an easy one. How many grain corners have failed in the United States? How many attempts to control various lines of production and enterprise have failed? Is not "failure" written all over every page of the history of combinations? The agitators demand that laws shall be made to forbid, absolutely and unconditionally, all combinations. The better way is to let the combinations go on competing with combinations, as that method will insure to the public the best service at the least cost, the best products at the lowest prices and the most desirable conveniences at the least expense to those benefited by them. The law can not forbid combinations, unless it can be made to forbid partnership. The agitators tremble at ghosts of their own creation and ask for impracticable protection against them. Great interests in a great country necessarily call for large combinations of capital, and at the present time there is no sane justification of the outcry against the formation of large financial companies that intend to give "value received" in all their transactions. Successful trusts are impossible, and imbecile laws are not needed to protect the public from imaginary dangers.

THE OATMEAL TRUST BROKEN.

Another trust has collapsed. A dispatch from Cedar Rapids, Iowa, dated April 21, says: It leaked out yesterday that the meeting of the officers of the Oatmeal Trust, with the owners of certain mills that are idle, held in this city early in the week, was a stormy one and ended in the avowed determination of the idle mills to start again, each looking out for its own interest. When the pool was formed nearly three years ago, the mills at Yonkers, N. Y., Joliet and Rochelle, Ill., and Des Moines, Cedar Falls and Sioux City, Iowa, were given a bonus as high as \$12,000 a year in some cases to remain idle, and oatmeal went up from \$3.75 per barrel to \$5.50. There were 51 mills in the United States at the time, but the number has increased to 55, and the tax on the operating mills had become so burdensome that they refused longer to pay the former bonus, but offered a smaller consideration. This was refused by the owners of the idle mills at Des Moines and Cedar Falls, and the latter

have announced, it is alleged, that their product will be ready for market again May 15. The other mills will follow, and the old war will be renewed.

WONDERFUL THINGS IN DAKOTA.

Dakota is a remarkable country. Any American who doubts that assertion will be ashamed of his doubts when he reads the following letter from Mr. A. F. Borden, of Dundee, Dakota, under date of April 0, 1889, to the New York "Tribune." He says:

Persons coming to Dakota will do well, in the fall or winter, to rise up with the sun on any cool morning, and they will be well repaid for their trouble. As the sun is seen peeping over the horizon, if the morning is clear, one can see for ten, twenty and thirty miles, according to the levelness of the country. One can see timber thirty miles away, as if not more than six miles away, raised high in the air, so the sky can be seen between the mirage and the earth. Elevators and barns, houses and timber, seem to be mountainous in size, even though they are twenty miles away; the air is so cool and clear that people and stock are seen with the naked eye much better than with opera or field glasses, and persons talking with each other two miles away will be distinctly heard. Dakota is a wonderful country.

We should think so! Imagine people seeing things 30 miles away with the naked eye! And then the idea of conversing with persons two miles away! What an economy in courtship that implies. Mary and John, although separated by two miles of space, can get up early in the morning and do a heap of sparking as they do up the morning chores, talking their amorous nonsense easily over the wheat-fields, the potato patches, the meadows, the chinch-bugs and the two miles of distance, which would lend new enchantment! Ecstatic vision! Happy Dakota! No wonder every one is moving, or hoping to move, to Dakota, where lovers can spoon 2 miles without contracting bronchitis, and where ordinary barns, houses and elevators loom up like mountains! Whoop!! Dakota booms!

POINTS IN MILLING.

AGAIN are the prophets discredited. Last year, after the harvest was over and it was plain that some of the wheat grown in the United States was somewhat deficient in quality, the prophets gleefully said: "This crop will knock the life out of short-system milling!" Readers of THE MILLING WORLD will remember that the gleeful prophets of long-system disaster to the short-system movement were cautioned in these columns not to predict too confidently, as the same conditions of the grain that promised to make short-system milling difficult would certainly make long-system milling proportionately difficult. It was maintained in THE MILLING WORLD that, whatever might be the conditions of the crop, long and short systems of grinding would continue to occupy the same positions relatively. The passage of time has confirmed the justice of our contention. Most of the grumbling about poor grain and unsatisfactory results has come from long-system millers.

It is safe to assert that, if the short-system idea and practice really contained a radically wrong principle, the past year ought to have demonstrated the existence of the error so plainly that no more mills would be built on the short system. Yet the year has seen a really notable increase in the short-system direction. Scores of large mills and hundreds of small mills have been built on the short system during the year. Conspicuous mill building and furnishing firms have developed and advertised and constructed regular short-system mills, and all along the line there is visible a great growth of the short-system idea.

Not long ago certain bumptious wiseacres denounced the short-system idea as a wholly delusive one. Do millers, as a class, prefer a wrong idea to a correct one? Are millers, as a class, unable to decide, with the assistance of the bakers, dealers and consumers, whether the flour of the short system is good or bad? Is it not more reasonable to believe that the millers who have adopted the short system under-

stand their business well enough to be considered good judges of any system which they have tried thoroughly?

RECENTLY my experience has led me to believe that very few millers and writers, flour dealers and bakers, mill builders and furnishers really understand the extent and significance of the change that is taking place in American milling. Wherever I go, the millers are talking short system. There is not a man among them who is not ready to advance his ideas on the subject. Some still protest against the shortening of system, but the majority appear to favor shortening as a surer method of reducing cost of production. The present change may occasion less noise than the great change to roller milling caused a few years ago, but at this time there is going on a change that is almost as important and far-reaching as the great change from buhrs to rolls.

In one place I find a mill changing "from buhrs to rolls on the short system." In another place a 150-barrel roller mill is "remodeling to the short system." In a third place a new mill is going up, and it is a "200-barrel mill on the short system." In scarcely a single instance is there mention of a distinctively "long-system" change. Two years ago some cranky writers denounced as fools the men who dreamed that the short system might have some good in it, but those same cranks and prophets would need extra gall to-day to repeat their denunciation in the face of the facts of achievement everywhere visible.

DISCREDITED prophets do not die. Discouraged prophets do not crawl into their holes and draw in the holes after them. The short system has discredited and discouraged the milling prophets, but they continue to exist, and the more case-hardened among them even display the effrontery to announce that the particular short system they denounced did fail, while the particular short system which they advocated, or, at least, which they did not specifically denounce, is the short system that has succeeded in winning general attention! I do admire "gall," and these discredited, but elastic and hopelessly impudent, prophets do fill the measure of my admiration to overflowing with their affluence of illimitable, topless, sideless, bottomless, immeasurable, crystallized gall!

WE strongly advise the managers of the Millers' National Association to do a little figuring on the "small mills" of the United States before they assemble in convention at Milwaukee. They are going to say a great deal about capacity, about restriction of output, and about other points that are directly connected with the aggregate capacity of the American mills, and, if they learn a great deal more about the number of "small mills" in the country than they now know, they will talk a great deal less nonsense at Milwaukee than they talked at Buffalo. We remember the distinctness of the parabola of fine scorn that was carved on the face of one of the most voluble orators at Buffalo last summer, when he magniloquently announced that the Association had nothing

in common with the small mills, and that it could not afford to waste its high and mighty time and attention on mills below the daily 200-barrel notch. We predict that the aforementioned parabola of fine scorn will be changed to a vacant zigzag line of syzygies of astonishment, of startled ignorance, of amazement and of consternation when that particular orator gains some idea of the real capacity and the potentiality of the "small mills" to which he so contemptuously alludes.

SPECULATORS who commit suicide when the market goes against them are not numerous. St. Louis furnished the latest notable addition to the list. John Jackson, president of the St. Louis Elevator Company, was the victim of his own avarice, his own recklessness and his own cowardice. He saw his company involved in transactions that threatened to cost it a good deal of money, and he hanged himself rather than wait and live to see his fears realized. As usual, the real blow falls on the innocent, the family and friends of the suicide.

FROSTED seed wheat will be made the subject of thorough trial in the northwest this season. Hundreds of farmers are going to plant frosted seed, wisely or unwisely, as the harvest may determine. Certainly, if like begets like, poor seed should produce weak plants and poorer grain, and that poorer grain, replanted, should produce still poorer grain. It is to be feared that the frosted seed experiments will prove the opposite of wise, especially in the case of growers who sow all their land to the dubious stuff.

SPECIAL NOTICES.

LIBERAL OFFER.

With a view of increasing our subscription list, we will send a copy of R. J. Abernathy's new book, "The True Short System" (Price \$2.00) and "The Milling World" for one year at the very low price of Two Dollars. Renewal will be treated same way. This offer will only continue for a limited time. Now is your chance. Send in your subscriptions at once.

Address,
THE MILLING WORLD, BUFFALO, N. Y.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,
Columbus, Ohio.

Office and Factory, 5th Street, north of Naughten.

TOLEDO MILL PICKS AND STONE TOOL MFG. CO.

Manufacturer

and Dresser of

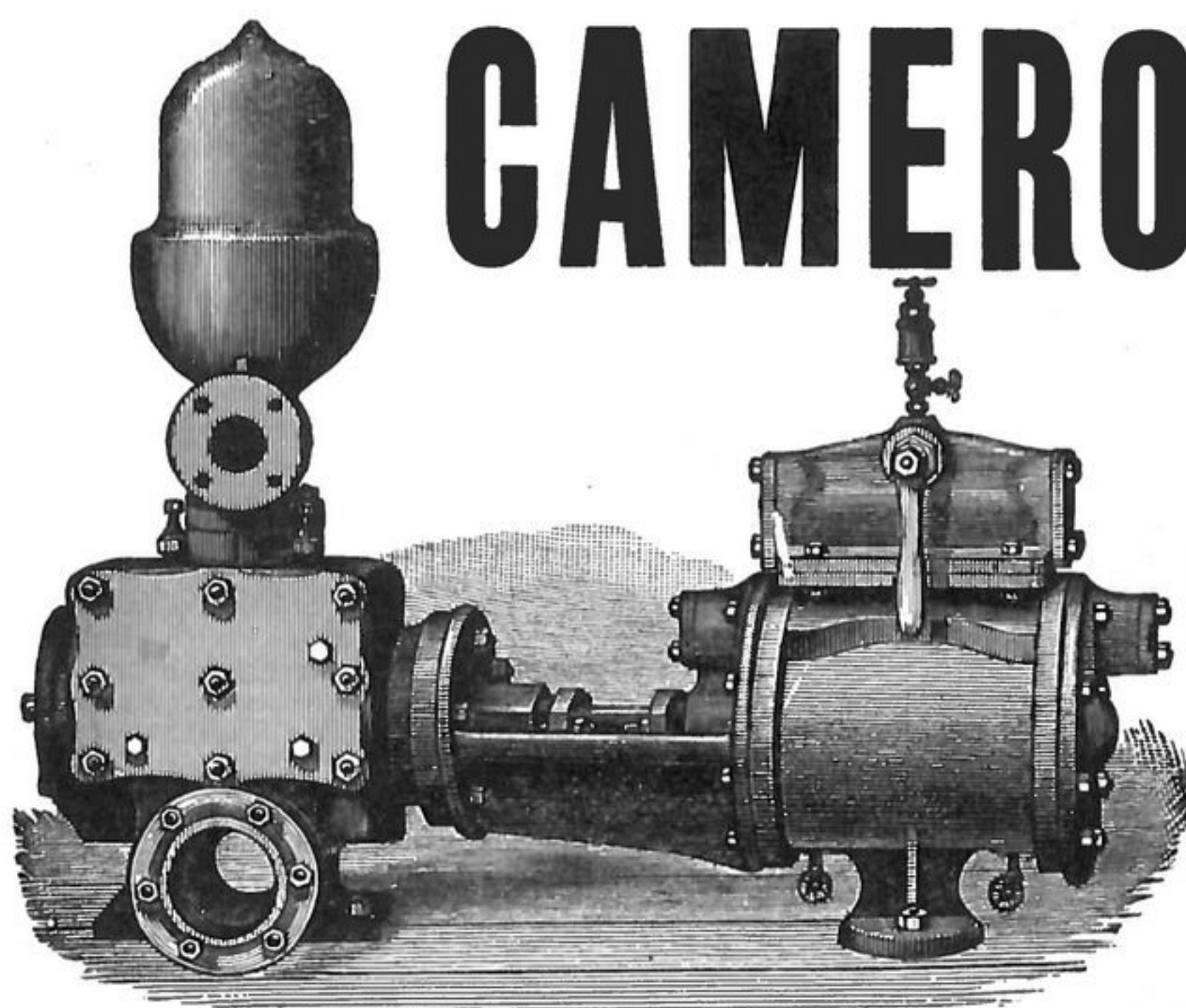
MILL PICKS.

Made of the best double-refined English cast steel. All work guaranteed. For terms and warranty, address, GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, Ohio. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF

Shafting, Pulleys, Hangers, Coupling, Machine and Jobbing, Etc., Etc.



CAMERON STEAM PUMP

THE STANDARD OF EXCELLENCE.

SIMPLE! COMPACT! DURABLE!

"NO OUTSIDE VALVE GEAR."

Steam, Air & Vacuum Pumps in Every Variety

FOR ILLUSTRATED CATALOGUE ADDRESS

THE A.S. CAMERON STEAM PUMP WORKS

Foot of East 23d Street, - New York.



NICKEL AND COBALT SPLIT UP.—Recently it was announced that Dr. Kruess, of Munich, had succeeded in splitting up the metals nickel and cobalt into other substances. This was believed to be one of the sensational rumors that come along three or four times a year, wearing such a look of plausibility that the reader often don't know whether to credit them or not. This time the report appears to be true. The atomic weights of cobalt and nickel have long been considered to be equal, each 58.6, and Professors Kruess and Schmidt have been carrying on very delicate measurements with each of the two, presumably for discovering whether the equality is real or only apparent. After careful investigation ten different methods of splitting up either cobalt or nickel were found, and considerable quantities of a substance common to the two were isolated. A black metal was the result, to which no name has yet been given.

GENERAL NOTES.

OHIO has 4,000,000 people, with \$14,000,000 in savings-banks. Maine has 660,000 people, with \$41,000,000 in savings-banks! Ohio has \$3.33 to each individual, Maine has \$62 to each individual, in savings-banks.

THE SINGLE-WHEAT MILLING QUESTION.

Commenting on Professor Jago's recent paper on the subject of milling single wheat, a correspondent of the London "Millers' Gazette," signing himself "Anglo-American," says: "It seems to me that Mr. Jago's contention on this matter is imperfectly understood; at any rate, although admitting there are many reservations and exceptions to be made, undoubtedly Mr. Jago's main thesis, the desirability of milling each kind of wheat singly, is correct in theory; whether or not the obstacles to such a system of manufacture are insuperable remains to be shown, and I, for one, will not accept the dogmas of George Miller, or any other prejudiced and biased believer in his own infallibility as final. If baking as a trade were carried on entirely in large concerns, which have proper facilities for mixing and testing flours, then Mr. Jago's contention would be even stronger than it is; but although in the principal towns and cities many such bakeries exist and others are being added, still there remains the fact of many small bakers' shops using from 5 to 30 bags per week, who have neither the appliances for mixing, nor the knowledge of the chemical constituents of the various flours which seems to me to be indispensable.

"The master miller is not a chemist; he is a merchant and manufacturer. I say he is not a chemist, though he perforce can speak of gluten, starch and moisture, and he knows by a rough rule of thumb which wheats have strength and which color. Now, if the master miller be ignorant on this head, what about his man? Such information as a practical miller has on these matters has been gleaned from the

milling journals or from private sources; certainly he will get no chemical knowledge from the mill, for where, how and when does wheat or any of its products undergo any chemical change during its passage from the wheat to the flour or offal sack? Its constituent parts are roughly divided into bran and flour, but their distinctive properties remain the same. But that old inherent dislike of change, so deeply rooted in the British bosom, seems to me tenfold stronger among the milling fraternity of these islands; it has held by the throat for centuries our honest and honorable calling, and, notwithstanding the lessons so frequently forced on it, upon the least sign of innovation this hydra-headed bigotry is at once on the alert to obstruct, if possible, the march of intellect and progress. A few years ago this very man who now speaks on behalf of the British millers, did his best to cry down and belittle the modern system of milling. Those 'transitory aspects' of his have passed away, and a believer in milling by stones is now as rare as one who asserts his faith in demonology and witchcraft.

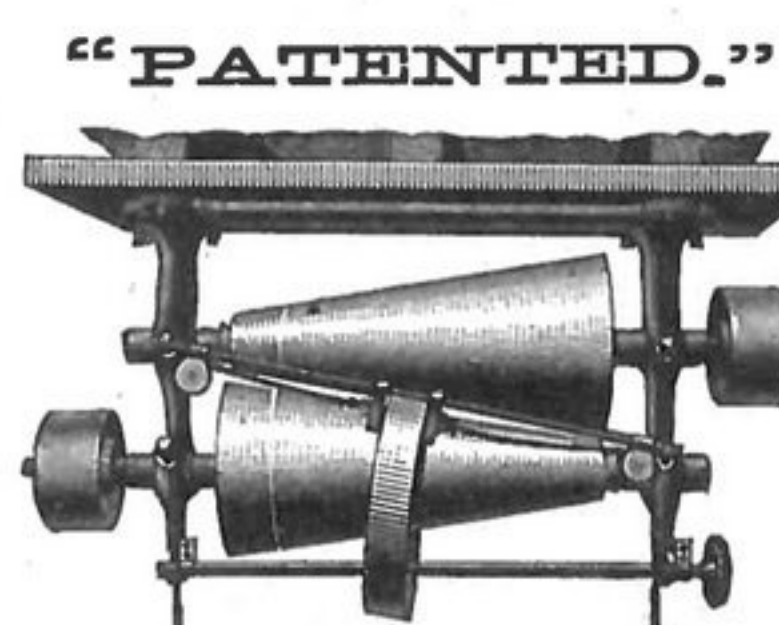
"I said the wheat was roughly divided; our systems are still far from perfect, and any miller can surely see that in many ways milling wheats singly would give better promise of satisfactory results. If he can not see this, let him call to mind that Minneapolis, St. Louis and Budapest are three cities each having many mills, every mill using one kind of wheat alone. I do not assert that it is the only reason of the superiority of their flour, but it has, without doubt, assisted the millers in those cities to bring their system of manufacture up to a higher level of perfectability than has been possible where millers have deemed it preferable to mill from blended wheats. Now Mr. Miller says it is impossible to mill Indian wheats dry; can any miller, who is a miller by profession and practice, and not in name alone, swallow such rubbish? Of this I am sure, that milling wheats dry is the only correct, aye, more, it is the only honest method. The systematic soaking of wheat in water, and then after a very moderate amount of drying, grinding this stuff and dressing through eights and nines should be fought by every honest man; it is as much adulteration as it is for the milkman to hold his pail of milk under the nozzle of the pump. I had rather see a man mixing in rice or bean flour than try this horrible wash, wash, wash! Understand, I do not say this proposition of Mr. Jago's is correct; there is much against, but also much for it."

DAKOTA and Minnesota suffered serious damage from prairie fires in early April. Luxurious coatings of dry grass fires and high winds combined to injure large areas of country. Some lives were lost and much property was destroyed. Such visitations are severe, but they do not prevent immigrants from settling in those countries.

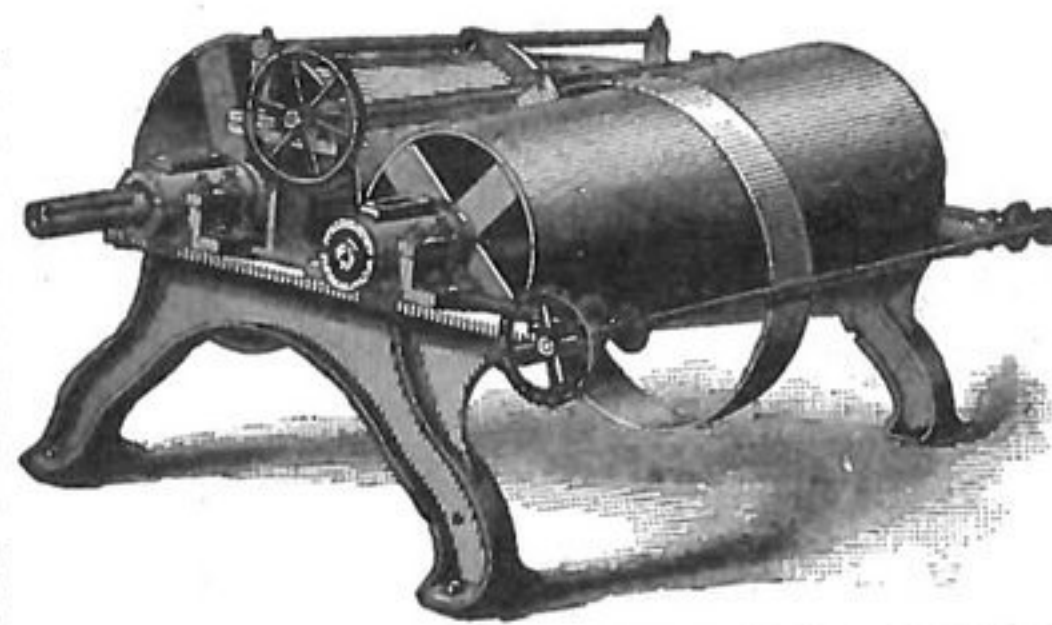
PERSONAL MENTION.

Announcement is made that Mr. Albert Hoppin, for a long time editor of the *Milling Engineer*, Milwaukee, Wis., has withdrawn from the service of the house publishing that journal. He has become part proprietor of two Chicago publications, the *Master Steam Fitter* and the *Sanitary Engineer*, and he will hereafter make his home in Chicago and devote his attention to those journals. No announcement has been made indicating the disposition that will be made of the Milwaukee publication. Editor Hoppin is an experienced writer. We wish him success in his new field of labor.

THE EVANS FRICTION CONE & FRICTIONAL GEARING

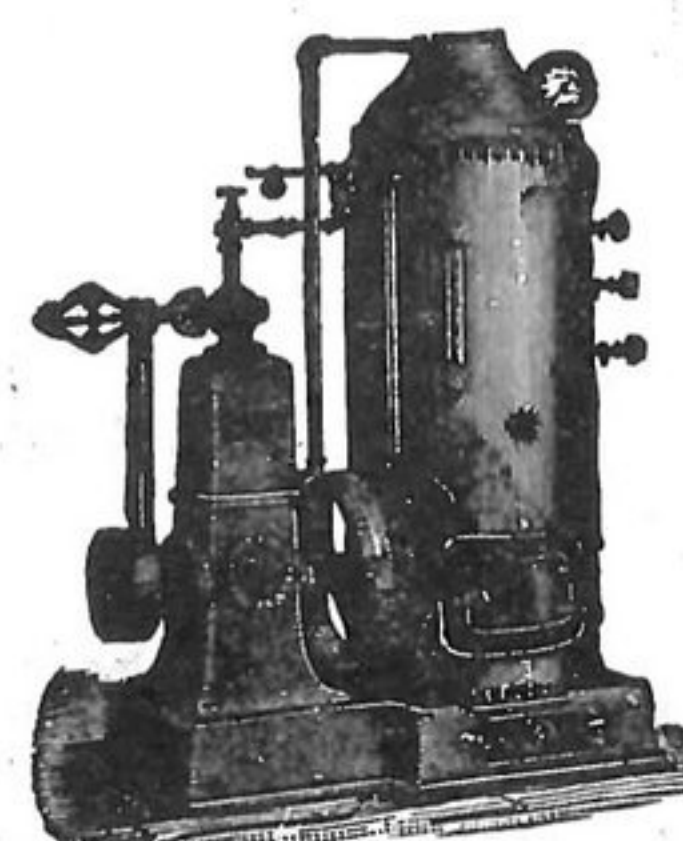


This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is



fluctuating. All sizes made from 1/2 Horse Power to 50 Horse Power. SEND FOR ILLUSTRATED CATALOGUE.

EVANS FRICTION CONE CO., 85 Water St., BOSTON.



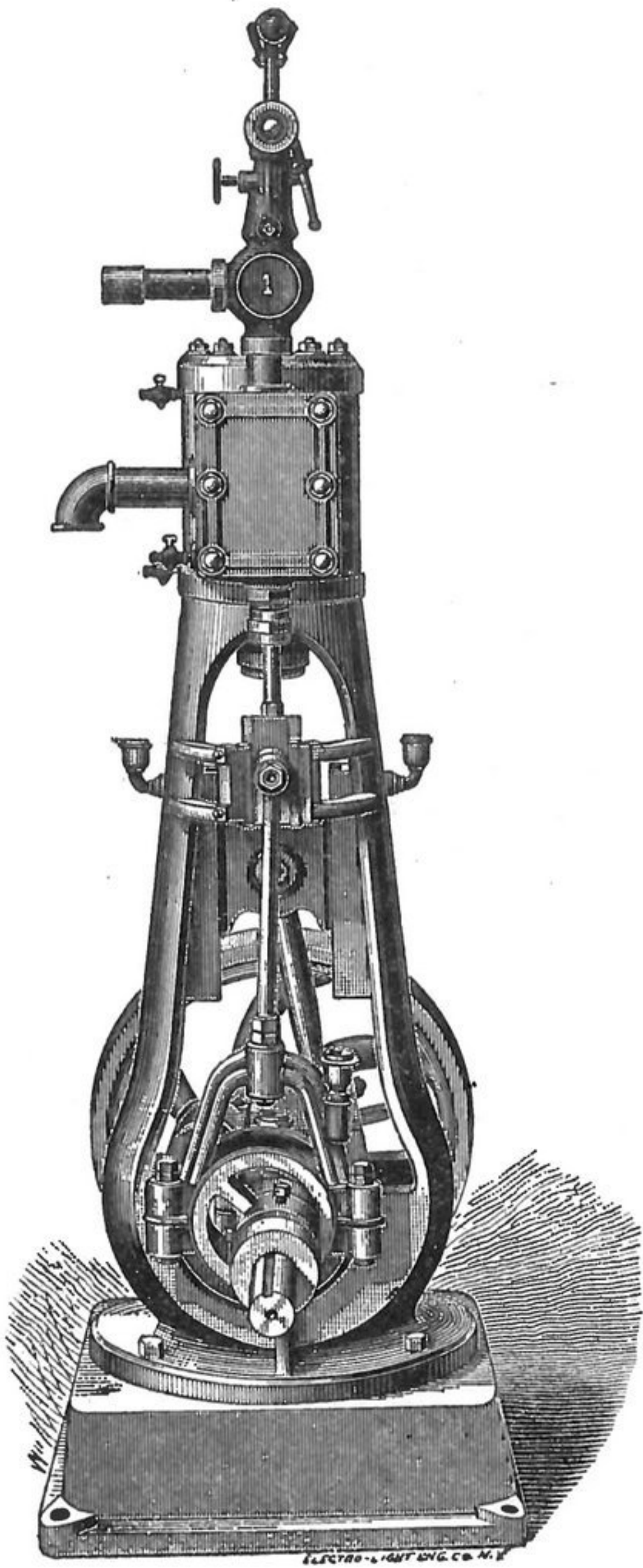
**DURABLE,
ECONOMICAL,
NOISELESS,
SELF-LUBRI-
CATING,
LOW-PRICED.**

One and two Cylinder Engines, with vertical or horizontal boilers, are running 2 years without using a wrench on them.

1 to 15 H. P.
SEND FOR CIRCULAR
TO

CASTLE ENGINE WORKS
INDIANAPOLIS, IND.

AUTOMATIC VERTICAL ENGINES



Especially adapted for Small Electric Light Plants. Perfect Regulation. Reversible Link Motion for Marine Use. Five to Fifteen Horse Power. Also manufacturers of

Lathes and Special Tools

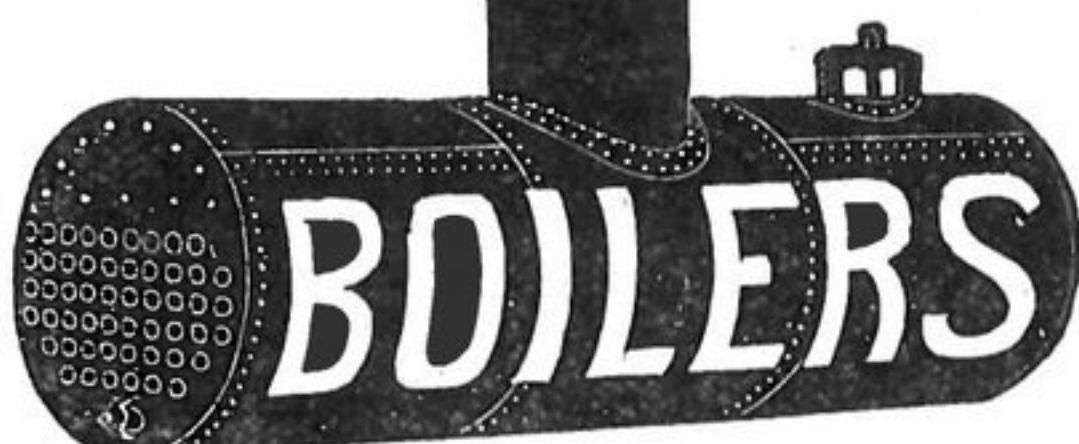
Metal Patterns, Models and Machinery Built to Order. Send for Prices and Specifications.

Lloyd & Sterrett

COR. 16TH AND STATE STS.,
ERIE, - - PENN.

EAGLE IRON WORKS, DETROIT, MICH.

MANFRS. OF HIGH GRADE



HORIZONTAL, UPRIGHT
PORTABLE AND MARINE.

Oil Tanks & Smoke Stacks,

HEAVY SHEET IRON WORK.

CORRESPONDENCE SOLICITED.

PAYNE HIGH SPEED CORLISS ENGINE

SHAFT GOVERNOR COMBINED WITH CORLISS WRIST-PLATE.

ECONOMY OF FUEL.

REGULATION EQUAL TO ANYTHING IN USE.

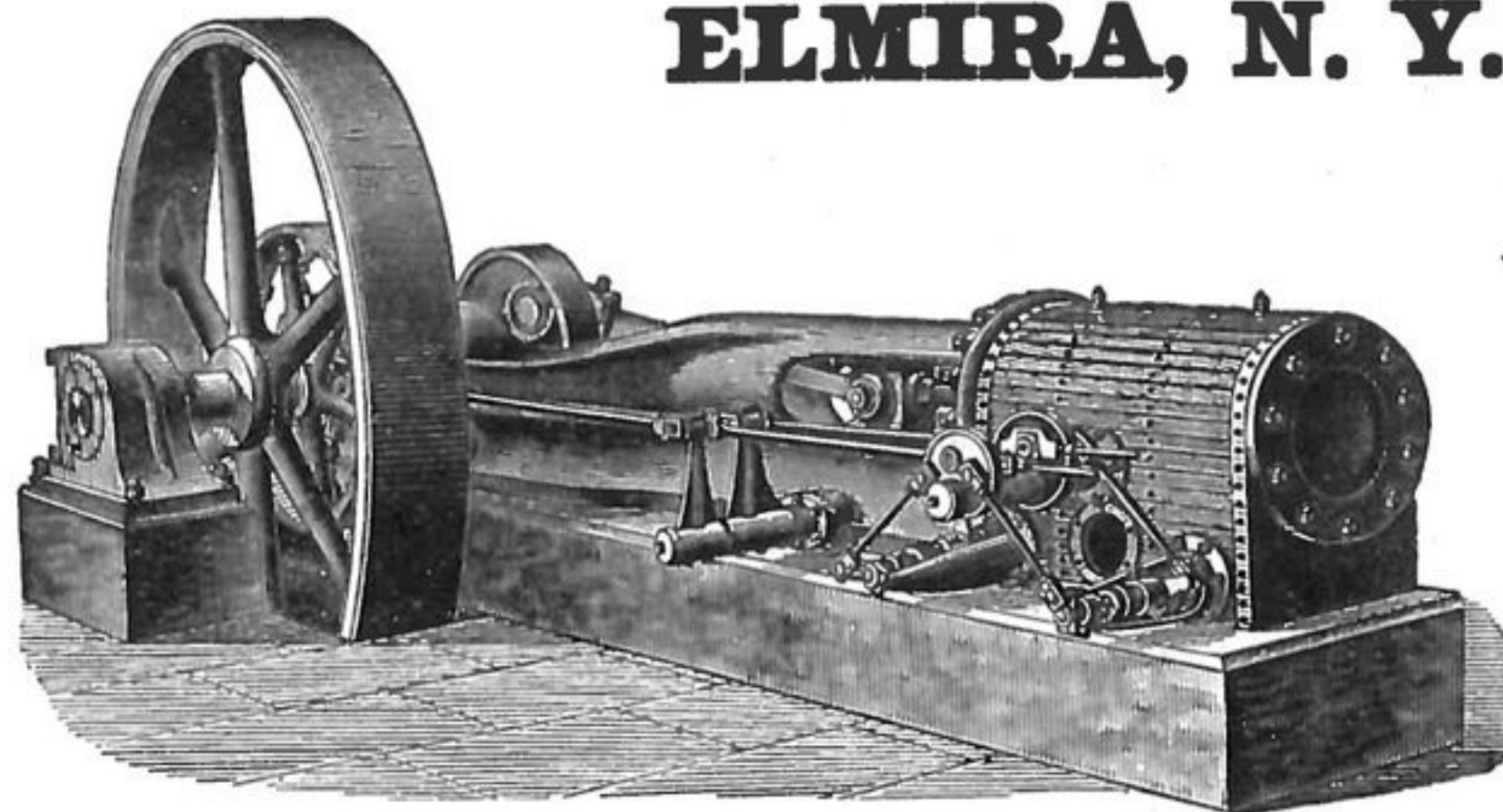
B. W. Payne & Sons,

ELMIRA, N. Y.

10 S. Canal Street,
CHICAGO, ILL.

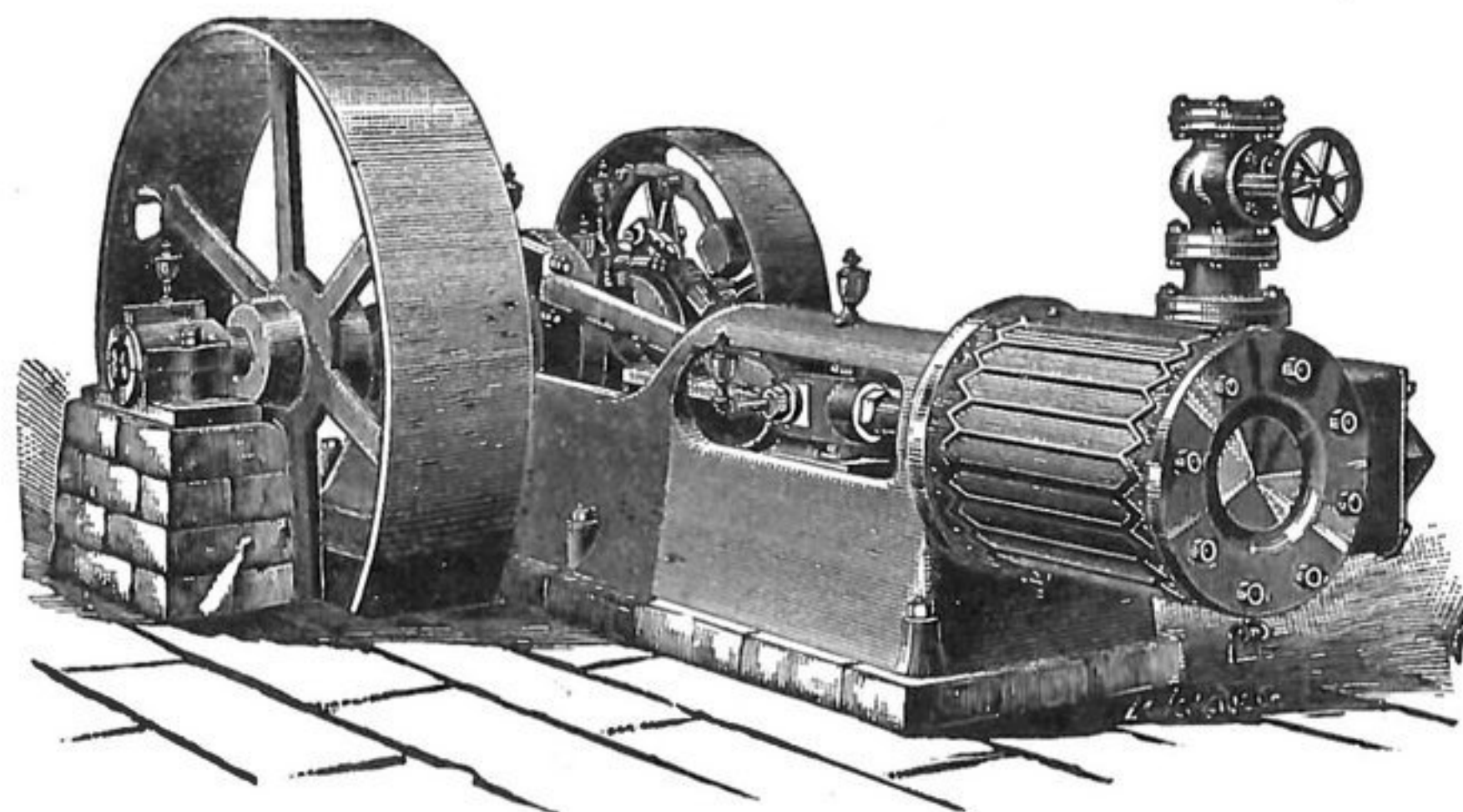
45 Dey Street,
NEW YORK.

Hill, Clark & Co.
BOSTON, MASS.



AUTOMATIC ENGINES FROM 2 TO 200 HORSE POWER.

Economic Power Plants



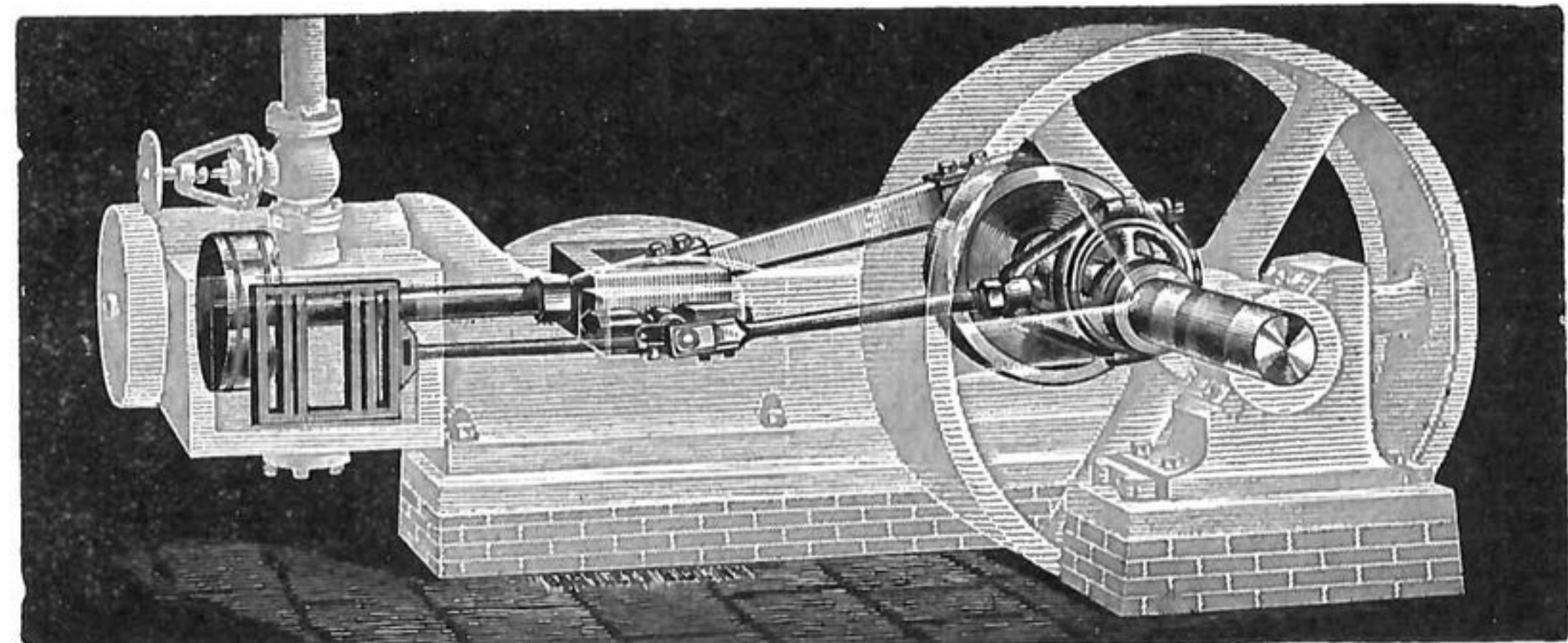
Especially Adapted to Electric Lighting and

WOOD-WORKING ESTABLISHMENTS

MANUFACTURED BY

VALLEY IRON WORKS, WILLIAMSPORT, PENN.

THE NEW PORTER HEAVY-DUTY ENGINE.



The Most Power for the Money, and All Things Considered the Most Economical.
For Illustrated Circular Address,

PORTER MANUFG. CO., LIMITED, SYRACUSE, N. Y.



Myer & Motz, Coburn, Pa., put in rolls.
 E. Lord, grist-mill, Athol, Mass., is dead.
 J. H. Boone, Felton, Del., remodels to rolls.
 Gantz Bros., Grove City, O., remodel to rolls.
 Woods & Lum, Waterport, N. Y., put in rolls.
 Culpepper's grist-mill, Peachtree, Ala., burned.
 Geo. Dickinson, Wynnewood, Pa., puts in rolls.
 S. Barclay, Hulmeville, Pa., improved his mill.
 Jas. S. Wilson, miller, Logansport, Ind., failed.
 F. Kerlin, miller, Chambersburg, Pa., assigned.
 J. W. Knotts, Hillsboro, Md., remodeled to rolls.
 J. J. Heffner, Kutztown, Pa., builds a roller mill.
 J. L. Bacon, grist-mill, Brimfield, Mass., sold out.
 W. H. Thorne's grist-mill, Littleton, N. C., burned.
 Geo. M. Harter, Center Hill, Pa., remodels to rolls.
 F. S. Kinderdine, Newtown, Pa., improves his mill.
 J. B. Hutton & Son, Perry, N. Y., remodel to rolls.
 The Farmer's Elevator Co., Redfield, Dak., sold out.
 J. A. Wiggs, grist-mill, Littleton, Mass., is insolvent.
 F. S. Gibson's flour-mill, Beaver Creek, Minn., burned.
 J. H. Randolph, Newport, Tenn., will build a roller mill.
 The Columbia, Tenn., Milling Co., build a 250-barrel mill.
 Jackson & Curtis, Richmond, Me., build a new grist-mill.
 M. R. Bushong, Lancaster, Pa., improves mill equipment.
 J. Parrett, Lydon, O., builds a 50-barrel short-system mill.
 H. Spencer, Fort Spring, Ky., wants flour-mill machinery.
 Lee's flouring-mill, Washington, Ind., burned; loss \$20,000.
 T. Henley and others, Macon, Ga., project a large elevator.
 C. S. Hershey, miller, Paradise, Pa., sold to E. M. Eckman.
 Darmody & McClure, Marion, O., put in short-system rolls.
 F. B. Hancock, Casky, Ky., will build a 50-barrel flour-mill.
 M. Hamer, Tyrone, Pa., builds a 25-barrel short-system mill.
 O. A. Duke's grist-mill, Clanton, Ala., burned; no insurance.
 Studebaker & Lieman, millers, Deer Creek, Pa., will dissolve.
 The D. A. Martin Elevator Co., Minneapolis, Minn., dissolved.
 J. Mack, McClellandtown, Pa., is building a 25-barrel roller mill.
 J. T. Anderson, Flynn's Lick, Tenn., wants roller-mill machinery.
 Williams & Ritchey, Barkersville, Ky., want flour-mill machinery.
 Snipes & Smith's flour-mill, Dalles, Ore., burned; insurance \$12,000.
 J. L. E. Van Meter's grist-mill, Berryville, Va., burned; loss \$2,500.
 Warner & Cabbage, Cordova, Md., will build a 40-barrel roller mill.
 C. D. Storms, grist-mill, Speigletown, N. Y., sold to E. F. Simmons.
 E. Allison's flour-mill, New Cumberland, W. Va., burned; loss \$12,000.
 W. & J. McKeage, Cherry Tree, Pa., are equipping a 40-barrel roller mill.
 W. H. Wilson & Son, Easton, Md., remodeled to rolls with 50-barrel capacity.
 Griscom, Ritchey & Williams, millers, Barkersville, Ky., now Williams & Ritchey.
 Becker & Co., Central Bridge, N. Y., put a 20-barrel roller outfit in their grist-mill.
 Tolle, Theiss & Co.'s elevator, Walshville, Ind., burned; loss \$2,000; insurance light.
 S. Hoerner, Germantown, O., will start a 40-barrel Allfree short-system roller flouring-mill.
 The C. A. Gambrill Mfg. Co., Ellicott City, Md., are building a 160,000-bushel grain elevator.
 R. A. F. Jackson, Brick Church, Tenn., wants machinery for a new grist and corn-meal mill.
 Head, Winston & Co., Remsen, N. Y., sold the old Anthony grist-mill to G. Richards for \$3,500.
 Larkin & Reed, Havre de Grace, Md., have leased the Orem mill and will improve and operate it.
 Hale Bros.' mill, Liberty, Tenn., will be changed to a roller mill by a recently organized company.
 S. R. Howks, Lebanon, Tenn., and others propose to build a \$10,000 roller mill, 100-barrel capacity.
 J. Mill, Savannah, N. Y., will build a grist-mill. The citizens raised a bonus of \$1,000 as an inducement.
 C. P. Greever and others, Graham, Va., are forming a \$20,000 stock company to build a merchant mill.
 C. R. Baer and others, St. Jacob, Ill., incorporated the Citizens' Milling Co., capital \$8,000, to operate a mill.
 J. W. Peacock, Cleveland, O., has bought the mill of J. Frick, Canton, O., and will enlarge its capacity to 250 barrels a day.
 B. Harrington, Westfield, N. Y., sold the Ripley mill to T. B. C. Taylor, who will move it to Westfield and put it up on his premises.
 S. Morgan Smith, Sons & Co., East Berlin, Pa., are building a 100-barrel roller mill. The head of this firm is the well-known turbine manufacturer of York, Pa.

The Lanesboro, Pa., Milling Co., Houck & Gilbert proprietors, failed; the mill is mortgaged for \$17,500; assets small.

The J. B. Allfree Co., Indianapolis, Ind., report the following recent contracts: R. Marquis, Oakford, Ind., a 40-barrel short-system mill, consisting of "Keystone" rolls, "Success" bolters, bran-duster and Allfree sieve-scalpers; Butler & Taylor, Stanberry, Mo., a 50-barrel full roller short-system mill and corn-meal plant, consisting of "Keystone" corn and wheat roller mills and other machinery of the Allfree manufacture, including an Allfree automatic engine, etc.; R. L. Searce, Moscow, Ky., a 70-barrel full roller short-system mill, including "Keystone" rolls, etc.; a 4-high corn-mill and other Allfree machinery.

BOOKS AND PAMPHLETS.

Editor Charles B. Murray, of our esteemed cotemporary, the Cincinnati *Price Current*, has our thanks for a copy of his excellent and valuable "Annual Statistical Report" for the year ending March 1, 1889. Every business man interested in grain, provision, crop and live-stock markets needs a copy of this report. It is full, complete, comprehensive and accurate. Price 25 cents.

The May number of *Scribner's Magazine* is one of great interest. The contents include L. M. Yale and J. G. A. Creighton's "Land of the Winanish," profusely illustrated; Eugene Schuyler's "Count Leo Tolstoy Twenty Years ago," Theo. Voorhes' "Freight Car Service," illustrated; and miscellaneous articles and poems by Rose Hawthorne Lathrop, J. Elliott Curran, Wm. H. Carruth, Octave Thanet, C. E. Markham, John Trowbridge, Robert Louis Stevenson, Mrs. James T. Fields and Charles Eliot Norton. The Number has no dull or uninteresting line or page. Address Charles Scribner's Sons, publishers, 743 Broadway, N. Y.

The May number of *Godey's Lady's Book* is full of attractive features. The frontispiece illustration is a pleasing picture entitled "I dess it's B'oked." The colored and black fashions and work novelties are shown in great variety. The illustrated story, "Her Own Way," by Emily Lennox, is charming. "The Lady of the Miniature," by Lucy Foster, "A Story of the Cardinal Virtues," by Augusta de Bubna, and "A Handful of Wild Flowers," by M. E. C., are each of particular merit. "A Woman's Way" grows in interest. Numerous short sketches and poems fill up a well selected collection of light reading. "Aunt Jane's Practical Fortune-Telling," "Chats with Our Neighbors," and the Household Department are of interest and practical value to housekeepers.

Good Housekeeping for April 27, No. 104, is an Easter number. The first page is occupied with an illustrated poem, "Christ is Risen," by Adelaide George Bennett, and there is another page full of original Easter poems. Among the seasonable papers is one on "Easter in the Olden time," by Florence H. Brown. The second Prize Paper on Eggs, by Mrs. Agnes B. Ormsbee, is also pertinent and contains matter of use at all seasons. "Mrs. Peck's Easter" is a story that pictures things in a very realistic light and will be much enjoyed. Prof. Riley's second paper treats of "The true Clothes Moth" and is of scarcely less interest or practical and timely usefulness than his first on the Buffalo Moth. Aunt Rachel Macy writes another of her charming letters to a young housekeeper; Katherine Taylor tells about painting on china; Helena Rowe furnishes her usual interesting resume of the fashions; Harriet M. Neale has another paper on "Home Furnishing and Decoration," the topic being "Choice and dainty Table-ware." Ruth Hall finishes her series of "Every-day Desserts," and the other departments are generously filled.

ORIGIN OF "UNCLE SAM."

Speculation has recently arisen regarding the origin of the term "Uncle Sam" as applied to the United States government.

In the war of 1812, between this country and Great Britain, Elbert Anderson, of New York, purchased in Troy, N. Y., a large amount of pork for the American army.

It was inspected by Samuel Wilson, who was popularly known as "Uncle Sam." The barrels of pork were marked "E. A., U. S.," the lettering being done by a facetious employe of Mr. Wilson.

When asked by fellow-workmen the meaning of the mark (for the letters U. S., for United States, were then almost entirely new to them), said "he did not know, unless it meant Elbert Anderson and Uncle Sam," alluding to Uncle Sam Wilson.

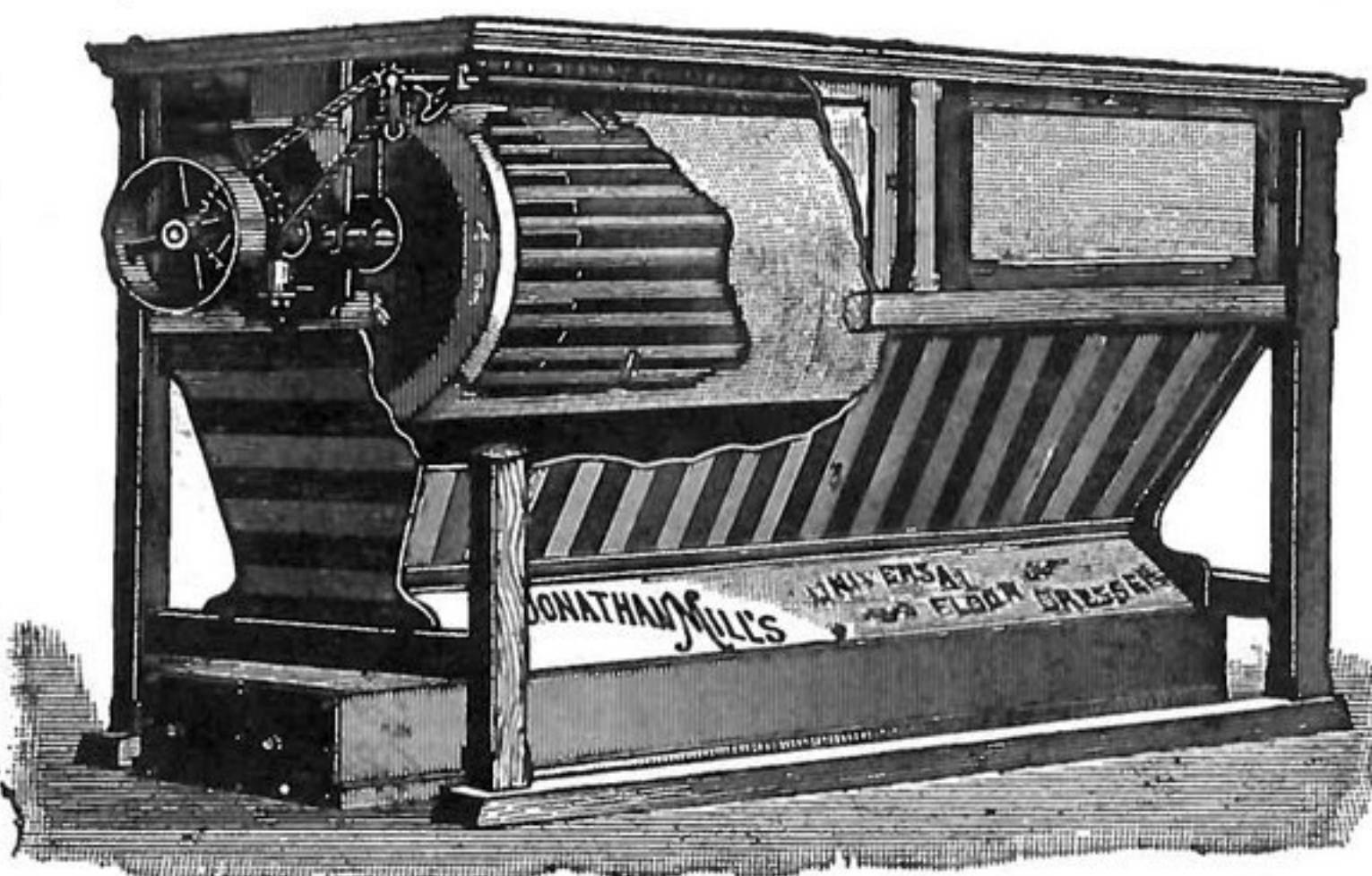
The joke took among the workmen and passed currently, and "Uncle Sam" himself, being present, was occasionally rallied on the increasing extent of his possessions. Soon the incident appeared in print, and the joke gained favor rapidly, till it penetrated and was recognized in every part of the country, and, says John Frost, the Boston historian, will no doubt continue so while the United States remains a nation.

It is now firmly imbedded in the Mosaic of our language, like "Tippecanoe," "Log Cabin," and other short but expressive phrases, which refer to important events in the history of the Republic. Both "Tippecanoe" and "Log Cabin" have taken on renewed force and vitality since their adoption by Hon. H. H. Warner, of Safe Cure fame, in the naming of two of his great standard remedies, the principal one known as Warner's Log Cabin Sarsaparilla. They are based upon formulæ so successfully used by our ancestors in the cure of the common ailments to which their arduous labors rendered them liable in the good old Log Cabin days.

The name of Warner's Safe Cure, likewise, will be held in high esteem, as familiar as a household word, while it continues to cure the worst forms of Kidney Disease, which the medical profession confesses itself unable to do.

MILLERS

of the United States and Canada write us for our new pamphlet and revised price list of our **Jonathan Mills UNIVERSAL FLOUR DRESSER**. The best machine on the market. Giving satisfaction everywhere in the best mills in this country. Thousands in use. We carry a full line of Crown Silk anchor Bolting Cloth and Grit Gauzes.

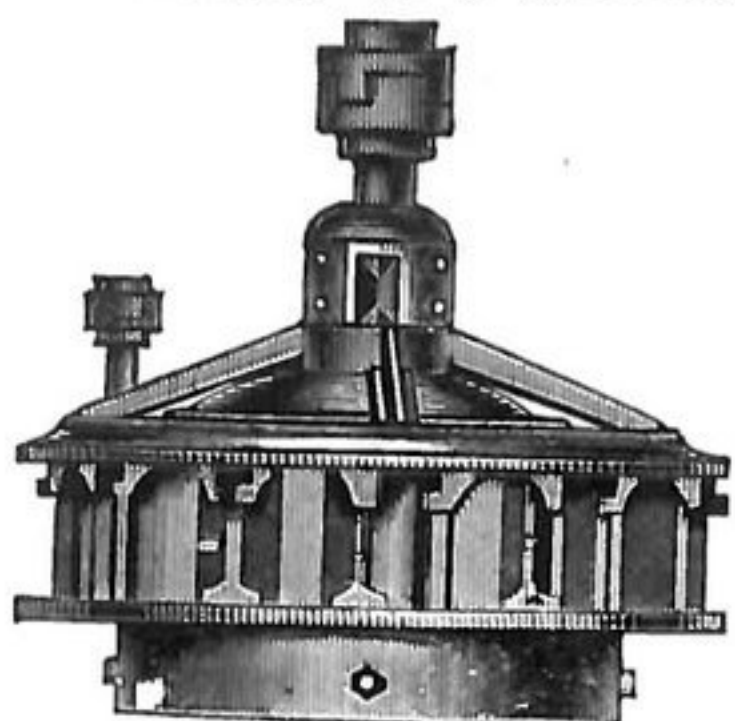


WE SOLICIT YOUR TRADE.

The Jonathan Mills Mfg. Co., Cleveland, Ohio, U. S. A.

THE IMPROVED "SUCCESS"

THIS WHEEL IS BOTH DURABLE AND CHEAP
PERCENTAGE: { Full Gate..... 86.29
 3/4 Gate..... 86.07
 1/2 Gate..... 81.25



SEND FOR PAMPHLET TO

S. Morgan Smith, York, Pa.

ATTENTION MILLWRIGHTS!

A BOOK YOU ALL WANT.

LEFFEL'S CONSTRUCTION OF MILL DAMS
AND
BOOKWALTER'S

MILLWRIGHT & MECHANIC
A STANDARD WORK.

This practical work of 288 pages gives with full illustrations and complete detail how to build or repair all kinds of mill dams.

PRICE FIFTY CENTS.

Or will be sent with a copy of "THE MILLING WORLD" for one year (postage prepaid) for \$1.25.
—ADDRESS—

McFAUL & NOLAN,
DRAWER 203, BUFFALO, N. Y.

* THE INK *

WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE

QUEEN CITY PRINTING INK CO.
CINCINNATI, O.

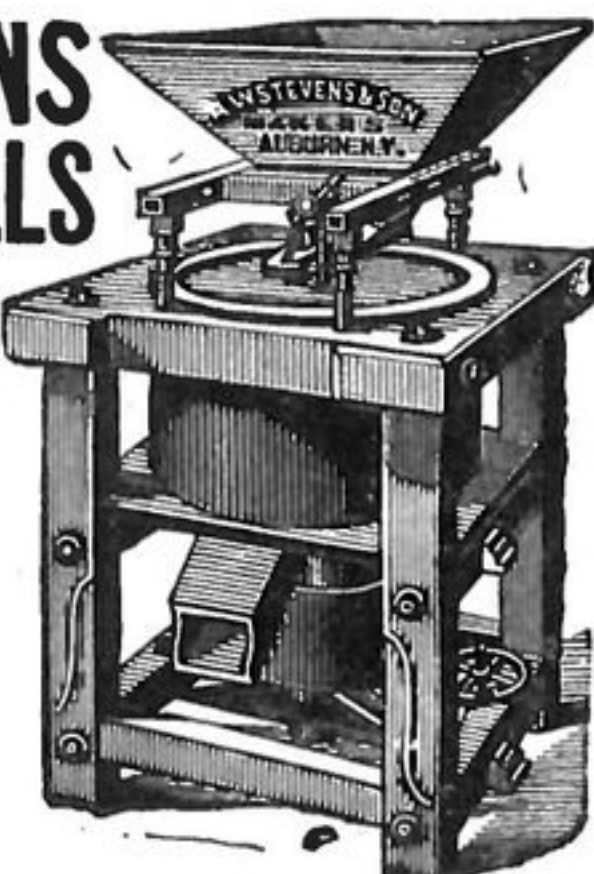
THE STEVENS PORTABLE MILLS


For CORN and FEED GRINDING

Genuine French **BUHR STONES**

PowerCornSheller
Prices Below the Lowest

A.W. STEVENS & SON
AUBURN, N. Y.
Mention this paper.






SCRIBNER'S MAGAZINE

AN IMPORTANT CLUB OFFER

SCRIBNER'S MAGAZINE



Gives its readers literature of lasting interest and value. It is fully and beautifully illustrated and has already gained a more than national circulation exceeding 125,000 copies monthly.

PRICE 25 CENTS A NUMBER \$3.00 A YEAR.

SPECIAL ARRANGEMENTS with Messrs. Charles Scribner's Sons the Publishers enable us to offer SCRIBNER'S MAGAZINE with the

MILLING WORLD at \$3.50 a year. Send in your Subscription at once. Address, **THE MILLING WORLD, BUFFALO, N. Y.**

WHEN WRITING TO ADVERTISERS PLEASE MENTION "THE MILLING WORLD."

THE LADIES FAVORITE

NEW HOME

THE LIGHT RUNNING SEWING MACHINE

THE FINEST WOODWORK THE BEST ATTACHMENTS

NEW HOME SEWING MACHINE CO. ORANGE - MASS.

CHICAGO, ILL. 28 UNION SQUARE, N.Y. SAN FRANCISCO, CAL.

ST. LOUIS, MO. ATLANTA, GA. FOR SALE BY DALLAS, TEX.

N. BUSSENDORFFER.

L. L. WHITLOCK,
Advertising Agent
FOR MANUFACTURERS.
TRADE JOURNALS A SPECIALTY.
P. O. DRAWER 5323. Boston, Mass.
As Agent for Advertisers instead of Papers, I obtain the Best Rates Possible for my Customers.

"Cooper on Belting"

A Treatise on the Use of Belting for the Transmission of Power. With illustrations of approved and actual methods of arranging Main Driving and Quarter Twist Belts, and of Belt Fastenings. Examples and Rules in great number for exhibiting and calculating the size and driving power of belts. Plain, Particular and Practical Directions for the Treatment, Care and Management of Belts. Descriptions of many varieties of Beltings, together with chapters on the Transmission of Power by Ropes; by Iron and Wood Frictional Gearing; on the Strength of Belting Leather; and on the Experimental Investigations of Morin, Briggs, and others, for determining the Friction of Belts under different tensions, which are presented clearly and fully, with the text and tables unabridged. By JOHN H. COOPER, M. E. Second Edition. One vol., demi octavo. Cloth, \$3.50. Sent post-paid on receipt of price. Address,

McFAUL & NOLAN, BUFFALO, N. Y.

SENSIBLE LOW-COST HOUSES **HOW TO BUILD THEM**



A large Atlas, giving illustrations and full descriptions of 56 desirable modern houses, costing from \$800 to \$7500. Every detail profusely illustrated, showing many valuable original ideas. Shows what to do and what not to do. Houses adapted to all climates described. The latest, best, and only cheap work published. Sent by mail on receipt of \$1.00. **NATIONAL ARCHITECT'S UNION, PHILA., PA.**

EUROPEAN ECHOES.

ENGLISH wheat of the 1888 crop is reported to be from 12 to 30 per cent. inferior to that of 1887 for flour-making. In weight it is 5 per cent. below the 1887 crop.

THE damage done by the severe cold weather last winter in Russia to wheat was reported at 40 per cent. The damage was confined to winter wheat which constitutes about one third of the wheat grown there.

It is reported that an English company is making a new grain elevator and distributor which works on a vacuum principle, the air in the elevating and distributing pipes being exhausted by a powerful steam-engine.

THE flour import of Greece, owing to the quite important milling industry of that country, is small and limited to fine grades. In case the mills of Greece develop correspondingly in the future as in the past, even this small import will cease. There are 40 to 50 steam mills in the country, using 900 to 1,000 horse-power, aside from many water mills fitted up in very modern style.

SAYS the London "Miller" of April 8: Perhaps it may be said stocks of wheat are now held rather more confidently than they were at the end of March. Resistance to further decline is now very strong indeed. There seems a conviction that value has been flattened down of late by special circumstances rather than by natural weakness. Abroad the financial anxieties are less acute. In respect to wheat and flour as securities at present prices they are regaining some favor. The season keeps backward and the summer weather can not be foretold, while it is remembered that without a very fine harvest existing rates would be too low. May frosts and floods have a potentiality of making disaster that can not be forgotten, and the actual present situation of European markets do not warrant playing with prices 30s to 40s. for wheat. Stocks at the end of March in London were hardly reduced so much as they were expected to be by many persons, but as millers lately have bought very slowly, while speculation has been non-existent, the granary stocks have been apparently untouched to any extent. However, the quantity of wheat in London is probably a good deal less than it was on the 1st of January, through the reduced bulk in mill. Undoubtedly imports and farmers' supplies together have been materially below consumption, and so the fair inference is that millers have been supplying their customers with flour made out of their mill stocks rather than from current supplies. The long abstention from exports of wheat and of a large output of flour from Atlantic ports remains a feature of the winter campaign, nor can it be said the extra quantities received from Russia fully substitute the lessened supplies from other countries, notably from Australia. As to farmers' supplies, while last week's deliveries were some 12,000 quarters under those of a month ago, yet they exceed the average of the last ten years. In the seven months ending 31st March wheat imports were 8,271,718 quarters, or about 2,000,000 quarters more than in the corresponding period last season; but of flour imported the quantity this year equals only 2,413,876 quarters, where a year ago 3,155,888 quarters were received. News came on Tuesday from South Australia that one-fifth of its wheat area was not worth reaping, and that three vessels have been chartered at San Francisco to load wheat for Sydney. New Zealand's fine harvest is expected to be wanted for its great neighbor.

THE London "Millers' Gazette" gives this somewhat curious summation of the American flour export trade: The American milling journals are complaining that American merchant millers can not this season compete with English millers, the latter having cheap Russian wheat, which enables them to manufacture flour of better quality than the average American spring-wheat flour this season; and, moreover, to sell it at 9d. to 1s. per sack less than the

American miller can deliver his flour for in England. This is the worst season which American millers have experienced since 1883, since, in fact, they obtained a lead in European markets. The relative positions of the American and British markets this season is, indeed, such that the American miller, with his fictitiously dear wheat and its inferior quality, can not even see his legitimate manufacturer's profit in making flour. Meanwhile the British miller is making up somewhat for lost time; fortunately there has been no interruption, by rings or syndicates, to the steady flow of cheap, good wheats, and the margin between the manufactured article and the raw material has for the first time for some years been maintained at a respectable level. The official figures relating to the exports of American flour from July 1, 1888, to Feb. 28, 1889, do not, however, show that large falling off compared with last year which might have been expected. The comparative figures for the two years are as follows:

	1888-89.—Bbls.	1887-88.—Bbls.
July.....	803,925	632,118
August.....	871,206	1,144,490
September.....	939,564	1,172,347
October.....	931,189	1,018,862
November.....	580,076	1,084,319
December.....	698,613	1,171,365
January.....	685,244	1,023,925
February.....	666,778	996,340
Total 8 months....	6,176,595	8,243,764

The exports have, therefore, averaged 772,000 barrels per month this season, against 1,030,000 barrels last season, the diminution being just about 25 per cent. It is interesting to note that of the above exports nearly 15 per cent. were from the Pacific Coast, including Californian and Oregon, the figures being as follows:

	1888-89.—Bbls.	1887-88.—Bbls.
July.....	121,097	37,209
August.....	76,097	41,188
September.....	79,089	84,470
October.....	98,416	120,730
November.....	84,048	111,390
December.....	142,690	102,586
January.....	162,842	110,817
February.....	124,845	132,707
Total 8 months....	889,124	741,067

MILLING PATENTS.

Among the patents granted April 16, 1889, are following: Nelson Leduc and Albert E. Weeks, Lockport, N. Y., No. 401,503, a dust-collector.

Rosia W. Welch, Baltimore, Md., No. 401,667, a grain-clipping machine.


Among the patents granted April 23, 1889, are following: James B. Allfree, Indianapolis, Ind., No. 401,872, a grinding-mill, one-half assigned to R. Shriver and H. Swartzwelder, Cumberland, Md.

S. Freeman, Racine, Wis., No. 402,012, a grain-separator.

Ralph Wilcox, Milwaukee, Wis., No. 402,049, a feeder for roller-mills.

GENERAL DEMORALIZATION

Some of our milling cotemporaries are becoming sadly demoralized. We find one advertising patent nostrums on its front cover page and another puffing them in its reading columns. This is unbecoming, to say the least. —*Buffalo "Roller Mill."* Singularly enough the demoralization is spreading, and even our Buffalo neighbor has advanced to such a depth of demoralization that it advertises on one page a photographic camera, a creamer, an incubator and a book of recipes for curing all kinds of poultry diseases. On another page it advertises a file and index, on another a desk, on another a typewriter, and on another a life insurance company. And as it is all legitimate business, whose business is it? Millers are certainly quite as interested in preserving their lives by the judicious use of reliable curatives as they are in insuring their lives or in surrounding themselves with the inestimable and indispensable luxuries of creamers, incubators and hen-disease-curing recipes.



RELiance OIL & GREASE CO., CLEVELAND, O.,

—MANUFACTURERS OF—

Finest Lubricants for Milling Plants. A Challenge to the World.

SPECIAL
HIGH GRADE
PRODUCTS

WRITE US. "VALVE OLEINE"—675 Degrees Fire Test, Cylinder Oil. "RUSSIAN"—Engine and Machine Oil.
 "CHIEF"—Roller Mill Lubricant. "ANCHOR"—Roller Mill Grease.
 "NIAGARA"—Belt Grease. "CHELSEA"—Scale Solvent, Best on Market. **Agents Wanted.**

FREE—SAMPLES, CATALOGUE, AND ALL INFORMATION.



**MOORE'S
PATENT
BARREL HEATER.**

For all kinds of coo-
 erage. Thousands
 in use in all parts of the
 U. S. Send for Circular.

JOLIET STOVE WORKS JOLIET ILL.

WIRE BOLTING CLOTH—STEEL, BRASS & TINNED

—[ESTABLISHED 1844]—
Exclusive Manufacturers of the
**"ACME" STEEL TEMPERED
 BATTERY & BOLTING WIRE CLOTH.**

Also manufacturers of Bran Duster Cloth, Plated Wire
 Mill Screen Cloth, Smut Cloth, Brass and Copper Wire
 Cloth. A full line constantly on hand. Send for sam-
 ples and price lists.

Brooklyn Wire Cloth Works.
 NO. 107 JOHN STREET, NEW YORK.

CLOTHS MADE UP WITH PATENT BINDING WHEN DESIRED.

**SHIPPERS
CAN SAVE TIME
TROUBLE
AND
CASH**



BY USING
**BARLOW'S
PATENT
MANIFOLD
SHIPPING
BLANKS.** SEND FOR
 SAMPLE SHEET & PRICES
 BARLOW BROS. GRAND RAPIDS, MICH.

THE BOSTON
**WOOD ENGRAVING
 LITHOGRAPHY**

THE DONNELL CO.

STANDARD SCIENTIFIC BOOKS.

THE PUMP CATECHISM—By Robert Grimshaw, M. E. A Practical Help to Runners, and Makers of Pumps of any kind. Just out in cloth, one volume. Price postpaid..... \$1.00

A TREATISE ON FRICTION AND LOST WORK IN MACHINERY AND MILL WORK—By Robt. H. Thurston. Containing an explanation of the Theory of Friction and an account of the various lubricants in general use, with a record of various experimenters to deduce the laws of Friction and Lubricated Surfaces. Copiously illustrated. 8 vo., cloth.. \$3.00

KNIGHT'S MECHANICAL DICTIONARY—By Edward H. Knight, A.M., L.L.D. A book for all persons who make, buy, sell, use or want to know anything about tools or machines, now complete in four volumes, bringing the record down to this time. Sheep; 4 volumes.. \$31.50

THE AMERICAN HOUSE CARPENTER—By R. G. Hatfield, (1880). A Treatise on the art of Building, comprising styles of architecture, strength of materials, theory and practice of construction of floors, framed girders, roof trusses, stairs, doors, windows, mouldings and cornices. Numerous fine wood engravings. 8 vo., cloth..... \$5.00

A MANUAL OF CATTLE FEEDING—By H. P. Armsby, Chemist of the Connecticut Agricultural Experiment Station. With plates; 12 mo., cloth..... \$2.50

A TREATISE ON TOOTHED GEARING—By Howard J. Cromwell. 12 mo., cloth. Complete Instructions for Designing, Drawing and Constructing spur Wheels, Bevel Wheels, Lantern Gear, Screw Gear, Etc.. Etc... \$2.00

STEAM ENGINE CATECHISM—By Robert Grimshaw. A Series of thoroughly practical questions and answers arranged so as to give to a young engineer just the information required to fit him for properly running an engine. 18 mo., cloth..... \$1.00

THE WINDMILL AS A PRIME MOVER—By A. R. Wolff, M. E. Comprehending everything of value relating to windmills, their use, designs, construction, etc. With many fine illustrations. 8 vo., cloth..... \$3.00

BOOKKEEPING & ACCOUNTANTSHIP—By Thomas Jones. For self-instruction or office reference. Based on twenty years experience in teaching. 8 vo., cloth..... \$2.50

**THE ARCHITECT AND BUILDERS POC-
KET-BOOK**—By F. E. Kidder. With original tables and valuable information for architects, builders, engineers and contractors. Fully illus-
 trated. In Pocket-Book form. Morocco..... \$3.50

Any book extant at lowest prices. Great inducements
 to parties collecting libraries.

McFAUL & NOLAN, BUFFALO N. Y.

THE JOHN H. MCGOWAN CO.






PUMPS FOR ALL PURPOSES
 CINCINNATI, OHIO.
 FACTORY OFFICE 46 CENTRAL AVE. ON APPLICATION




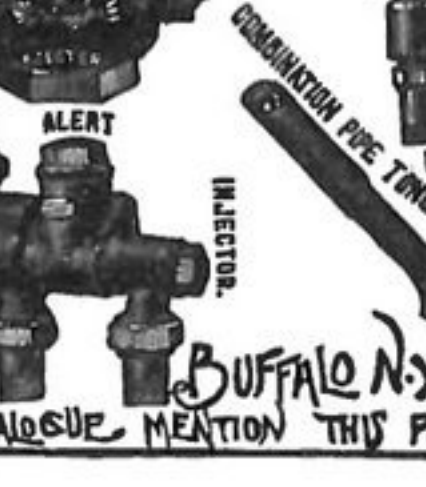
BURNHAM'S NEW IMPROVED



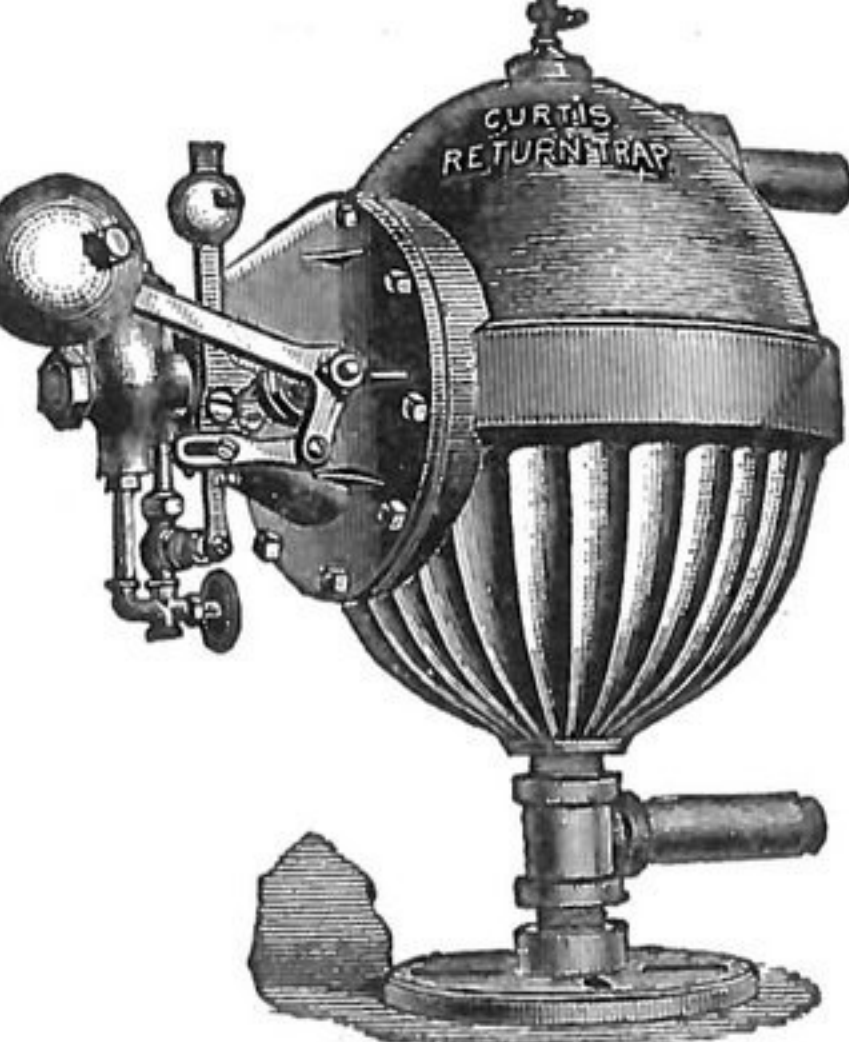
STANDARD TURBINE WHEEL

PATENTED
 MAR 27
 1883.
 and
 MAY 1,
 1888.
 ADDRESS
 YORK
 PENN.
 FOR
 PRICE
 8c & c.

FELTHOUSE & SHERWOOD
 Successors to J. J. & Co. MANUFACTURERS
 DETROIT. E. G. FELTHOUSE
 BUFFALO.

107 1/2 CHURCH ST. BUFFALO N.Y.
 SEND FOR CATALOGUE MENTION THIS PAPER.



THE CURTIS

PATENT RETURN STEAM TRAP.

IT is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

THE CURTIS REGULATOR COMPANY,
 No. 74 BEVERLY ST., BOSTON, MASS.

GENERAL AGENCIES.

NEW YORK, 109 Liberty st.
 PHILADELPHIA, 2035 N. Front st.
 MINNEAPOLIS, 210 S. Third st.

CHICAGO, 218 Lake st.
 ST. LOUIS, 511 WALNUT St.
 NEW ORLEANS, 21 Union St.



OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., April 27, 1889.

Good Friday holiday last week gave the bulls and bears and all other stripes and assortments of speculators a chance to rest from their labors of rolling the markets up and down the hill, but even while the holiday was passing, influences were at work to unsettle the markets.

On Saturday the western news indicated fine weather and good crop prospects, and the markets weakened a shade in consequence. April wheat ruled at about 85c. Options 4,000,000 bushels. Export demand for spot was decidedly better. April corn was at 43½c. at closing, and the line was stronger on short spot supply. Oats closed at 30c. Wheat flour was in good demand for Saturday, and prices were inclined to be stronger in consequence of the destruction of stock by the New York Central Elevator fire. Sellers refused concessions. The minor lines were quiet and featureless.

On Monday the crop reports weakened the markets. In the Southwest the winter wheat, which grew nearly all winter, was heading out, indicating a harvest a month earlier than in 1888. Weather was reported generally favorable. April wheat closed at 83½c. and May at 84½c. Options 14,500,000 bushels, chiefly in switching May into June at 1½¢ difference. In Chicago much long wheat was shaken out by the fine weather and by the pressure of shorts. April corn closed at 43½c. and oats at 39¾c. Wheat flour was dull and irregular and generally lower, with moderate sales. The minor lines were featureless. The visible supply in the United States and Canada was:

	1889.	1888.	1887.
Wheat.....	April 20. 26,989,678	April 21. 32,633,418	April 23. 48,674,814
Corn.....	14,914,963	8,188,223	10,222,512
Oats.....	6,769,297	3,373,095	4,417,944
Rye.....	1,464,850	314,440	358,611
Barley.....	939,460	1,090,166	561,512

On Tuesday the bears were again all powerful, and wheat took another step downward towards the "bottom" that is always in sight, but goes lower every time the dealers think they have certainly hit it. The weather reports, the easier cables and the fine work of the bears constituted a load too heavy for the market. April wheat opened at 83½c. and closed at 82¾c. Options 8,520,000 bushels. Exporters did considerable business for Europe. April corn ruled at 43½c. and oats at 29¾c. The wheat flour market was dull, weak and lower on all high and medium grades, both springs and winters. The other lines were quiet.

On Wednesday the markets were fairly active and generally easier, without making the usual daily movement downward. The crop and

weather reports were all calculated to manufacture bears at a lively rate. April wheat ruled at 82¾c. Options 10,200,000. April corn closed at 43½c. and oats at 29¾c. Rye grain was dull at 49@50½c. for western spot and to arrive, 58c. for State in full loads and 55@56c. for Jersey and Pennsylvania in car lots on track. Barley was nominal at 65@75c. for the whole range on Canada. Malt was slack at \$1.00@1.05 for City. Mill-feed was quiet at the following quotations: 40-lb, 55@60c; 60-lb, 55@60c 80-lb, 60@62½c; 100-lb, 70@85c; sharps. 90c; rye, 70@75c; oil meal, \$1.27½@1.32½; cottonseed meal, \$1.25@1.35.

Wheat flour was dull and lower to sell. Buyers were holding back for lower prices and refused to believe that the "bottom" had been reached by wheat.

Following are the flour quotations:

SPRING FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.55@1.70	\$....@....
Fine.....	1.80@2.05	2.10@2.35
Superfine.....	2.15@2.50@2.80
Extra No. 2.....	2.70@2.90	2.85@3.95
Extra No. 1.....	3.00@3.40	3.20@3.50
Clear.....	3.25@4.10	3.75@3.95
Straight.....	4.45@4.90	5.00@5.05
Patent.....	5.00@5.70	5.00@6.00

WINTER FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.80@2.00	\$....@....
Fine.....	2.20@2.40	2.30@2.50
Superfine.....	2.25@2.90	2.80@3.15
Extra No. 2.....	3.10@3.50	3.35@3.40
Extra No. 1.....	3.30@4.20	4.55@4.95
Clear.....	3.75@4.05	4.05@4.35
Straight.....	4.55@4.65	4.55@4.90
Patent.....	4.70@4.95	4.85@5.30

CITY MILLS.		
W. I. grades.....	\$4.25@4.35	
Low grades.....	2.25@2.50	
Patents.....	4.90@6.00	

Rye flour was dull at \$2.80@3.00 in barrels. Corn products were generally dull at the following quotations: Coarse meal, 80@85c.; fine yellow, 90@95c.; fine white, 95c@1; Brandywine and Sagamore, \$2.85; Western and Southern in barrels, \$2.70@2.80; do coarse and fine in sacks, 75c@1.10; hominy, \$2.50@2.75; grits, \$2.35@2.65.

On Thursday the markets were dull. April wheat closed at 83c. Options 2,160,000 bushels. April corn closed at 43½c. and oats at 29¾c. Wheat flour was dull and weak. The minor lines were featureless. Transactions in all lines were small.

BUFFALO MARKETS.

WHEAT—The markets ruled firm and closed higher all around. Here there was some inquiry for hard spring, but not a single sale materialized. Limits were unchanged. The market closed nominally at \$1.23¼, \$1.18¼, \$1.08¼ and 83½c for old hard, new hard, No. Northern and No. 2 Northern respectively. At Chicago July opened at 78½c, touched 78¾c, advanced to 79½c, and closed at 79¼, a gain of ¾c over the previous close. May opened at 81c, sold up to 81½c, down to

80½c, and closed at 80½, ½c better. At Duluth May opened at 97¾c and closed at 98, same as the day before. Only 1 car winter wheat was reported sold. Choice No. 3 extra red at 88½c on track. About the only other track stuff offered was 1 car No. 2 white at 94c. No. 2 red from Chicago was held at 9½c over Chicago May, or 88½c in store at the close. No. 2 rod Michigan in store was offered at 5c over Detroit cash 90½c, and to arrive at about 4c over; No. white, 97@98c. CORN—Dull. Limits were out ¼c, making them 3¼c over Chicago May for No. 3 3¼c over for No. 2. 4c over for No. 3. yellow, in store. Sales reported were 9 cars No. 2 at 88½@88¾c, 4 cars No. 3 at 88c, in store. On track, 1 car No. 4 sold at 87½c, 2 cars No. 2 white at 89c. Closing quotations were 88½c for No. 2. 88c for No. 3. 88½c for No. 3 yellow. OATS—Slow and steady. A few cars changed hand at 32@32½c for No. 2 white 30@30½c for No. 3 white, 27½@28c for No. 1. mixed-BARLEY—Dull and unchanged in values. The malt trade was reported quite and easy, Canada selling at a range of 80@85c. and Western at 75@90c. RYE—No. 2 dull at 50@50½c on track. CANAL FREIGHT—Rate steady at 4c on wheat, 3½c on corn, and 2½c on oats to New York. FLOUR—City ground—Patent spring, \$6.75@7.00; straight Duluth spring \$6.25@6.50; bakers spring, best \$5.75@6.00; do rye mixture, \$5.00@5.25; patent winter, \$6.75@7.00; straight winter \$5.25@5.50; clear winter, \$5.00@5.25; cracker, \$5.00@5.25; graham, \$5.00@5.25; low grade, \$3.00@4.00; rye, \$3.25@3.50 per bl; buckwheat, \$3.50 per cwt. OATMEAL—Akron, \$6.00; Western \$5.75 per bbl; rolled oats, in cases, 72ba, \$3.25. CORNMEAL—Coarse, 80c; fine, granulated, \$1.50 per cwt.

Following is a late estimate of the corn crop in the hands of farmers April 1 in the seven principal corn growing states: Ohio—Crop 130,869,992 bushels; 30 per cent. or 39,260,997 bushels on hand. Indiana—Crop 159,543,012 bushels; 32 per cent. or 51,053,764 bushels on hand. Illinois—Crop 285,503,470 bushels; 37 per cent. or 90,636,284 bushels on hand. Iowa—Crop 306,843,713 bushels; 35 per cent. or 107,395,299 bushels on hand. Missouri—Crop 237,563,568 bushels; 27 per cent. or 64,142,163 bushels on hand. Kansas—Crop 163,269,623 bushels; 23 per cent. or 37,552,013 bushels on hand. Nebraska—Crop 151,591,497 bushels; 30 per cent. or 45,477,443 bushels on hand.

Elevators "A" and "B," belonging to the New York Central Railroad Co., located in New York, N. Y., were burned April 19 with other valuable property. "A" cost \$750,000 and "B" \$600,000, and each had a capacity of over 1,000,000 bushels. The contents at the time of the fire were worth \$100,000, making a total of \$1,450,000 on the two buildings, with only light insurance. The other property burned swelled the loss to nearly \$4,000,000.

The Beaver Creek Milling Co.'s 100-barrel flouring-mill, Beaver Creek, Minn., burned with its elevator; loss \$25,000; insured for \$17,000 in the Millers' National of Chicago.

In Oregon the public lands still undisposed of aggregate 60,795,360 acres; in Washington 44,796,160 acres. Much of it is the very best.

R. H. Browse, St. Mary's, W. Va., has bought and will operate the flouring-mill at that place.

The Canton Cabinet Filing Case Company, Canton, Ohio,

MANUFACTURERS OF

The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture



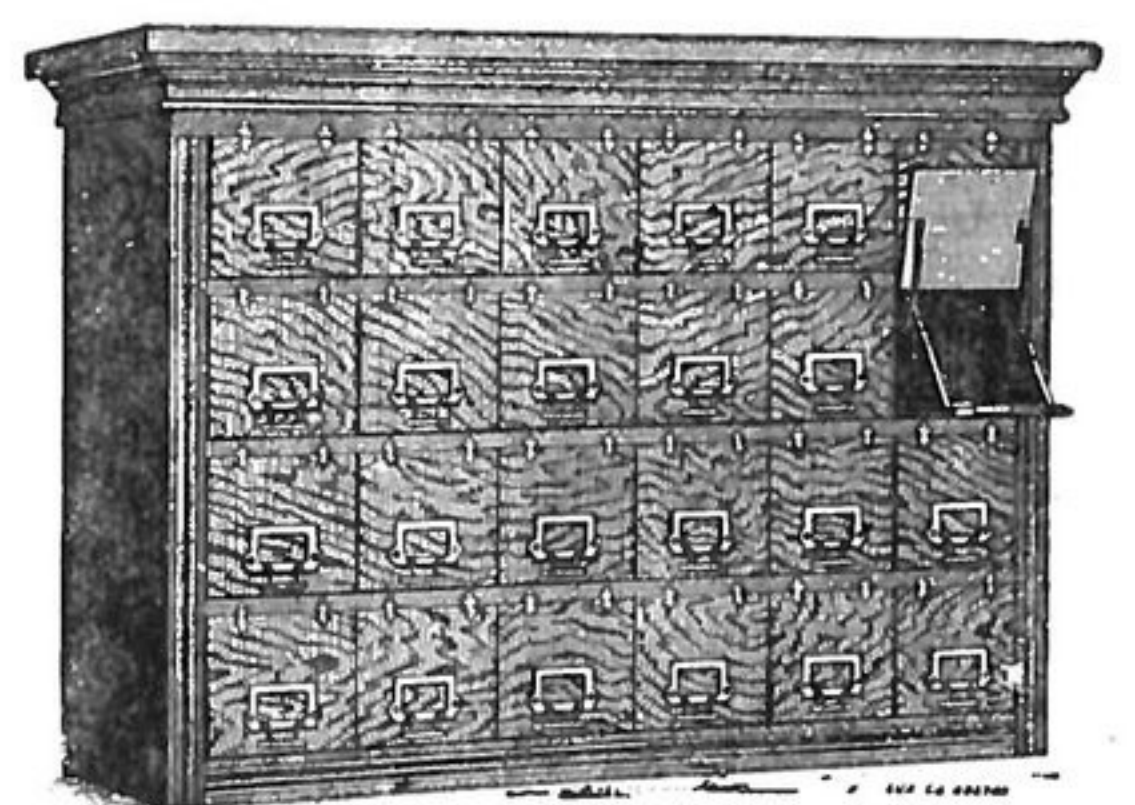
NO. 8.

NO. 8 Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 80 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

NO. 1 Represents one of our small Document Cabinets, for use on desks or brackets. Action of drawer can be seen in the cut. When front is raised inner drawer comes forward, exposing contents of drawer for inspection.

Our Cabinet Files are Conceded to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.

SEND FOR PRICE LIST AND CATALOGUE.



NO. 1.

INSURE IN THE TRADERS & TRAVELERS

Accident Company,
287 BROADWAY, NEW YORK.

BENEFITS.

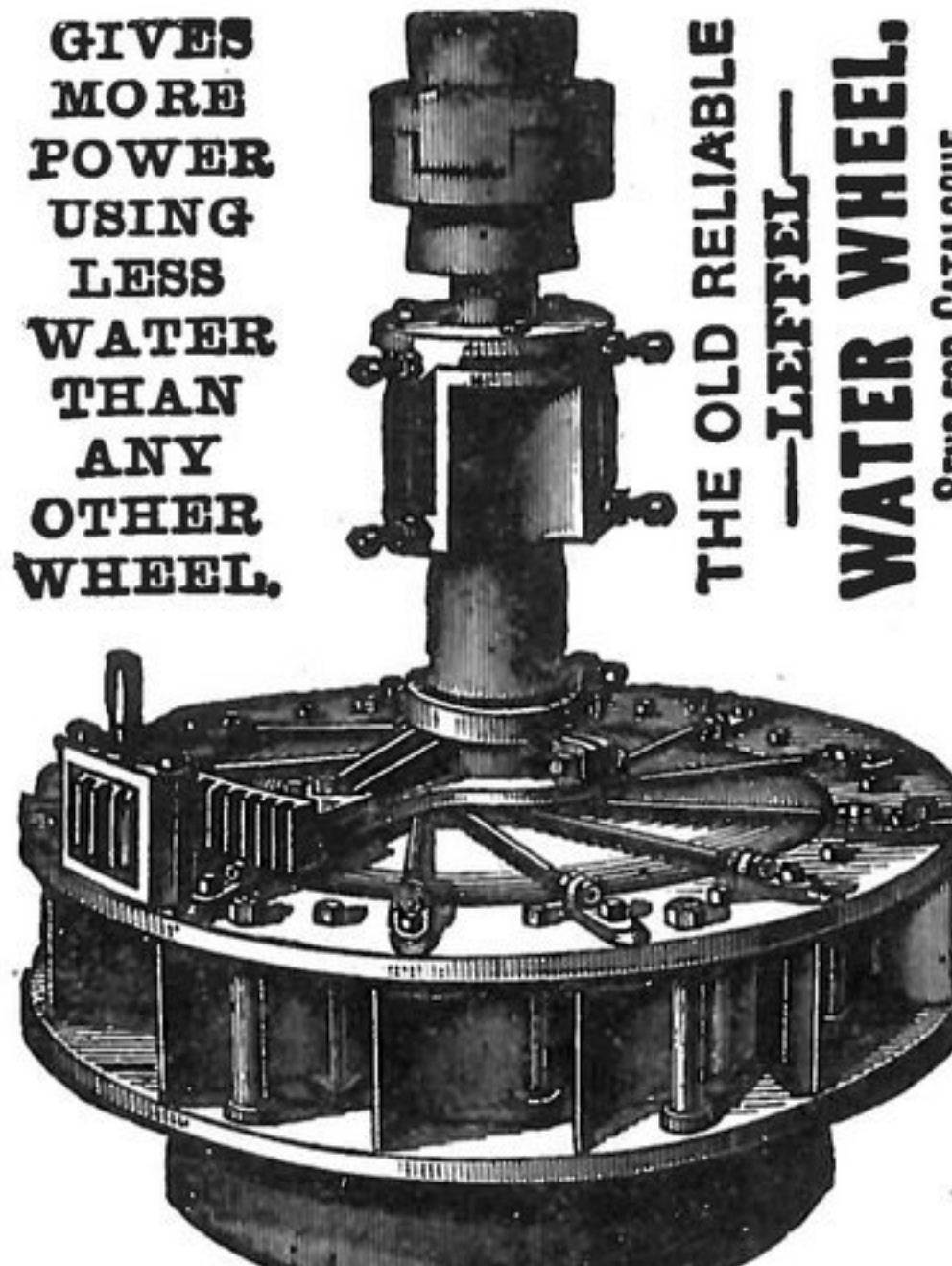
\$5,000 for Death.
\$5,000 Loss of Limbs.
\$2,500 Loss of Limb.
\$2,500 Loss of Sight.
\$1,250 Total Disability.
\$650 Loss of One Eye.
\$25 Weekly Indemnity for
26 Weeks.
One Set of Individual Registry Plates
Included.

COST.

Four Quarterly Payments, \$10.00
Annual Dues, - - - 1.00
Membership Fee, 5.00. \$11.00

IMPORTANT NOTICE.—The Traders & Travelers Accident Co. of New York desire the services of one responsible representative in each town to act as agent for the general transaction of their business. A liberal and permanent arrangement will be made with parties who can fill the above requirements. Address
C. S. SOMERVILLE, Sec'y.

GIVES MORE POWER USING LESS WATER THAN ANY OTHER WHEEL.



THE OLD RELIABLE — LEFFEL — WATER WHEEL.
SEND FOR CATALOGUE.
JAMES LEFFEL & CO.,
SPRINGFIELD, O., OR 110 LIBERTY ST., N.Y.

PREJUDICE Is a thief and robs you of many good things in this age of phenomenal progress. It pays to investigate. Send for Illustrated Price List of Reliance Safety Water Columns. They protect life and property, save repairs and enforce economy. Every Column Warranted.

Reliance Gauge Co., 831 Sheriff St., Cleveland, Ohio.

THE "HARLOW" Positive Feed Lubricators.

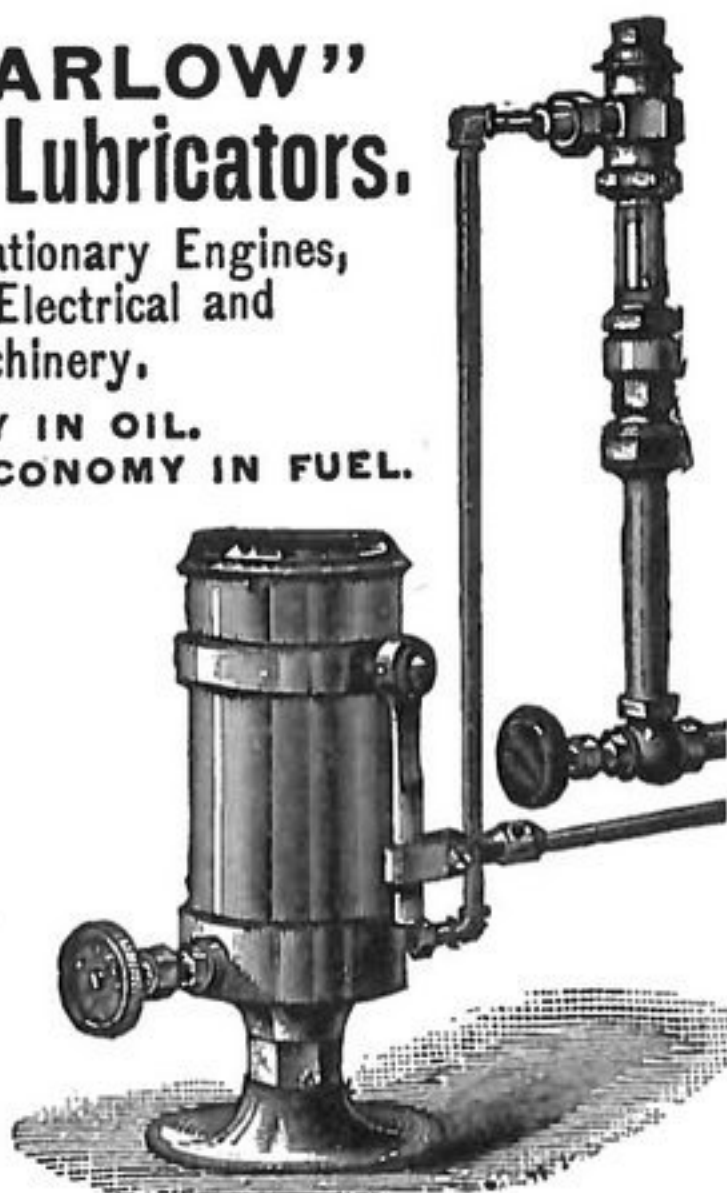
For Marine and Stationary Engines,
Steam Pumps, Electrical and
other Machinery.

**MAXIMUM ECONOMY IN OIL.
MARKED ECONOMY IN FUEL.**

Not dependent upon or
operated by Steam
Pressure, Condensa-
tion or Gravity.
Not affected by chan-
ges of temperature.

BEING operated by some moving portion of the engine or machine to be lubricated, the "Harlow Lubricator" starts and stops with the engine or machine being lubricated, without requiring the slightest attention from the engineer or operator, always delivering the oil in any amount from a drop to a constant stream. The cup can be filled at any moment while the engine or machine being lubricated is in operation, without causing any leakage either of oil or steam.

Harlow Lubricator Mfg. Co. BOSTON, Mass., U. S. A.

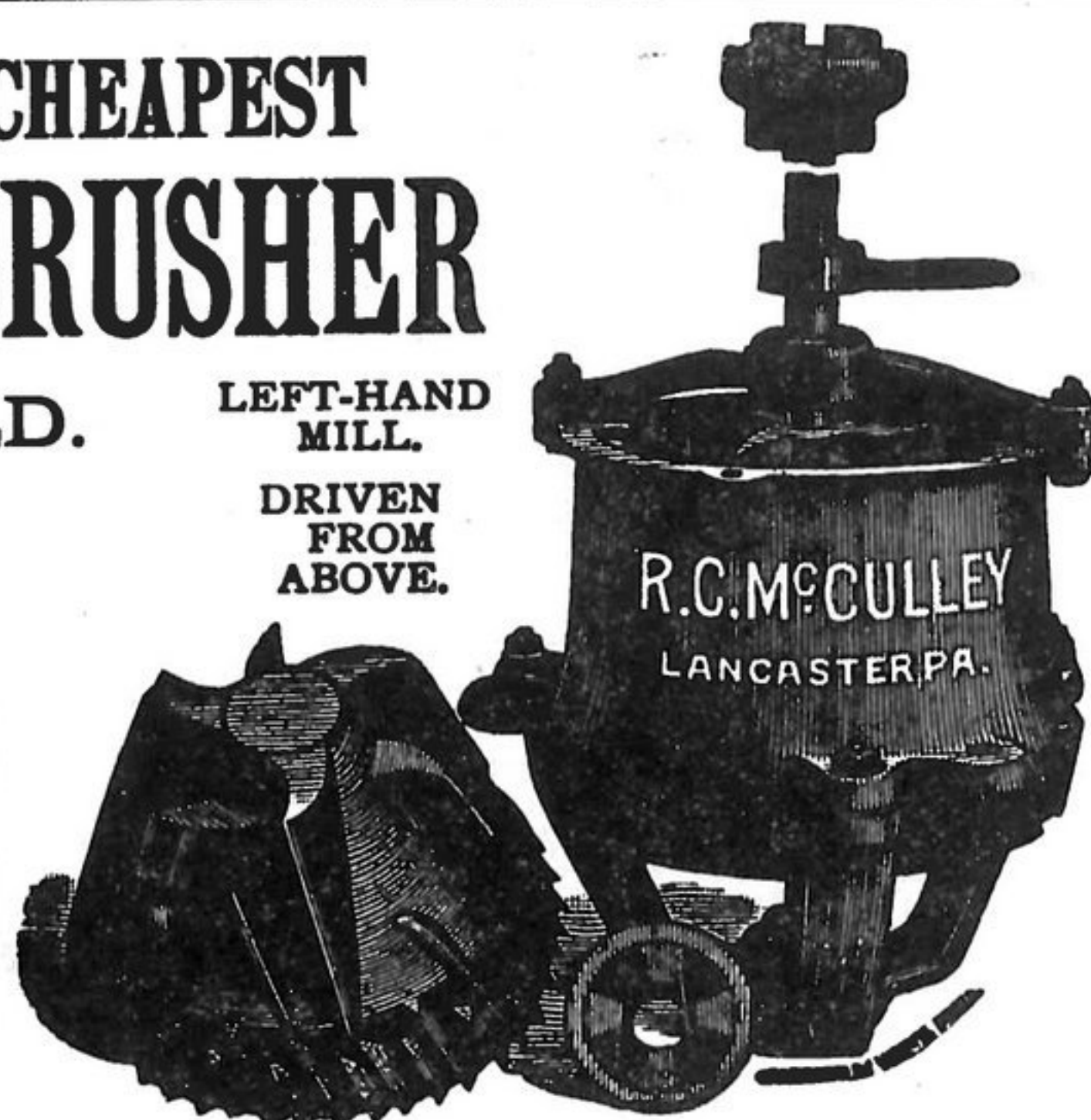


THE BEST AND CHEAPEST CORN AND COB CRUSHER IN THE WORLD.

All wearing parts cast of a steel mixture. Notice difference in construction. Most area where most work is done, where all other crushers have least area where most work is done. Low priced machinery is not the cheapest, considering durability and efficiency. Sent on 30 days' trial when satisfactory reference is furnished.

Please Send for Circulars.

R. C. McCULLEY, LANCASTER, PENN.



\$15 Will Buy the Best and Cheapest CORN AND COB CRUSHER IN THE WORLD!



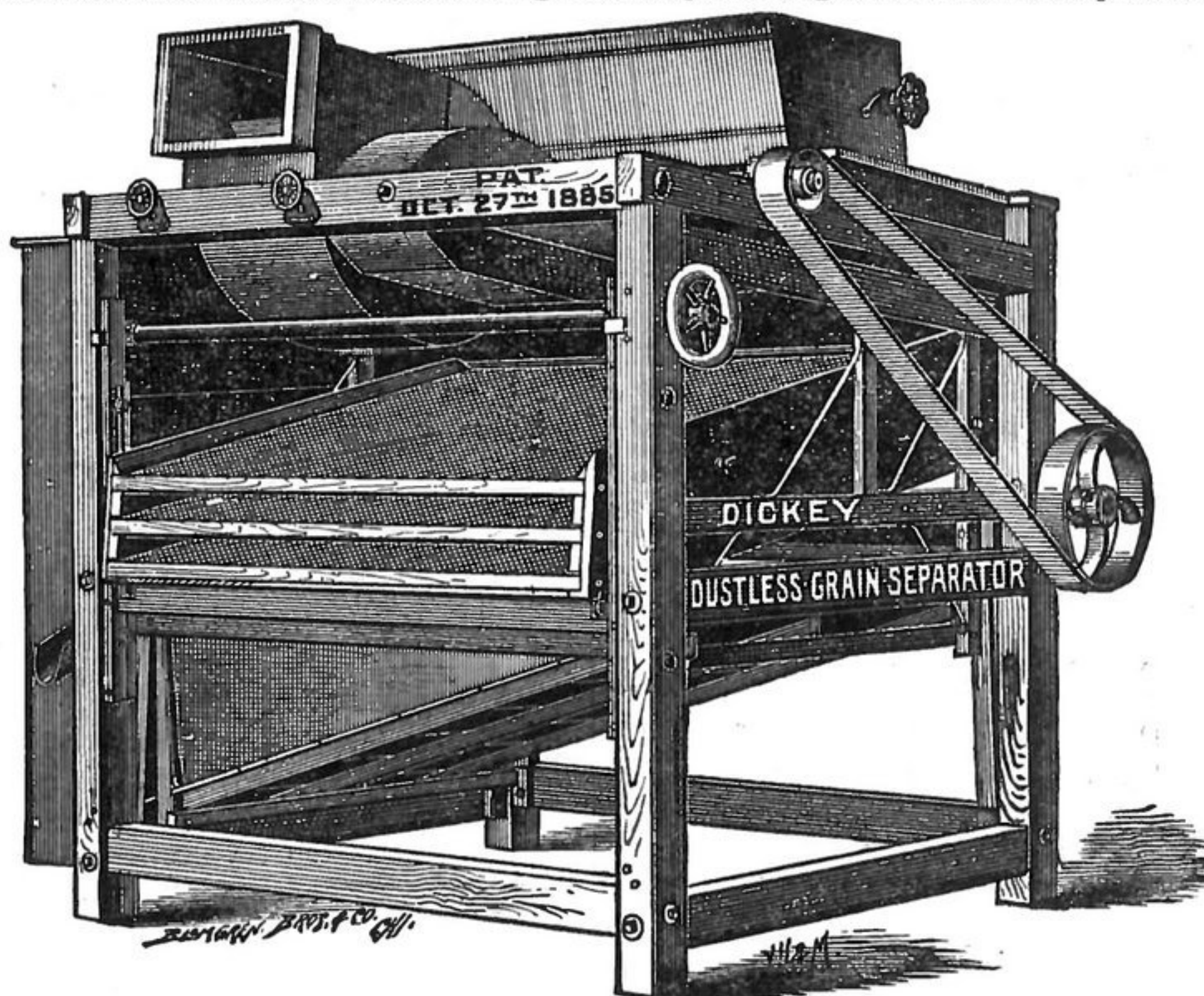
It can be driven either from above or below. Thousands of these Crushers are now in use throughout the United States and Canada, and are giving entire satisfaction. Send for circular, giving testimonials from millers who are using our Crusher, and know a good thing when they see it.

T. B. WOOD & SONS, CHAMBERSBURG, PA.

DICKEY DUSTLESS GRAIN AND FLAX SEPARATOR

This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is a Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.

WE CLAIM FOR IT SUPERIORITY.



WE CLAIM FOR IT SUPERIORITY.

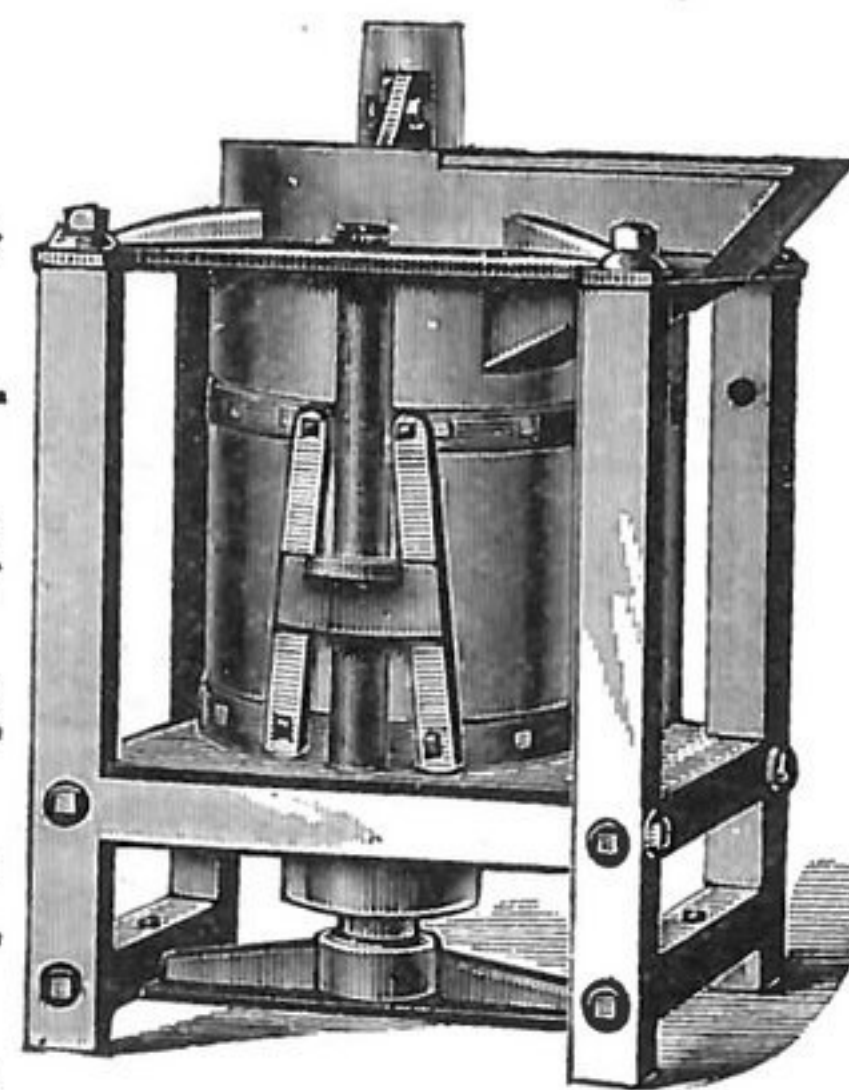
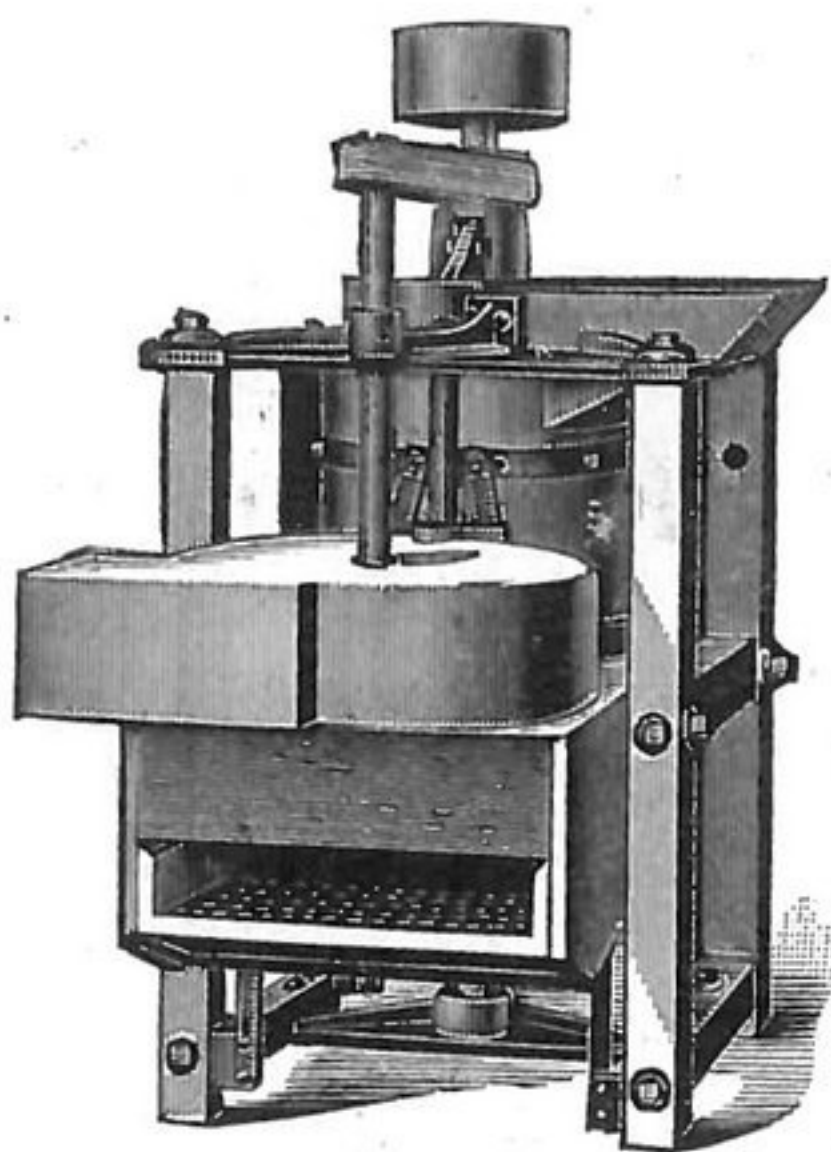
We claim for it Superiority over everything of the kind made, in simpleness, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

A. P. DICKEY MANUFACTURING CO., Successors to Dickey & Pease, RACINE, WIS.

The LIPPOLD DUSTLESS CORN SHELLER & CLEANER

MANUFACTURED BY

The LIPPOLD MFG. CO.
ERIE - - PENN.



THE HIGHEST CAPACITY for the LEAST MONEY.
The Best Machines for Mills and Elevators.
Machines Sent on Thirty Days' Trial.
SHELL UNHUSKED CORN AND CLEAN IT PERFECTLY.

WRITE FOR ILLUSTRATED CIRCULAR WITH PRICES.
NAME THIS PAPER.

*"DE MAN WOT KNOWS IT ALL
is allus a-makin' change, a-
buyin' ob experience."*

The man who does not think that
he "Knows it All" about

Pumps, Steam Engines and Boilers
Can find out a great deal about
them in

GRIMSHAW'S PUMP-CATECHISM - \$1.00
STEAM ENGINE CATECHISM - - - 2.00
BOILER CATECHISM - - - - - 2.00
PREPARING FOR INDICATION - - 1.00

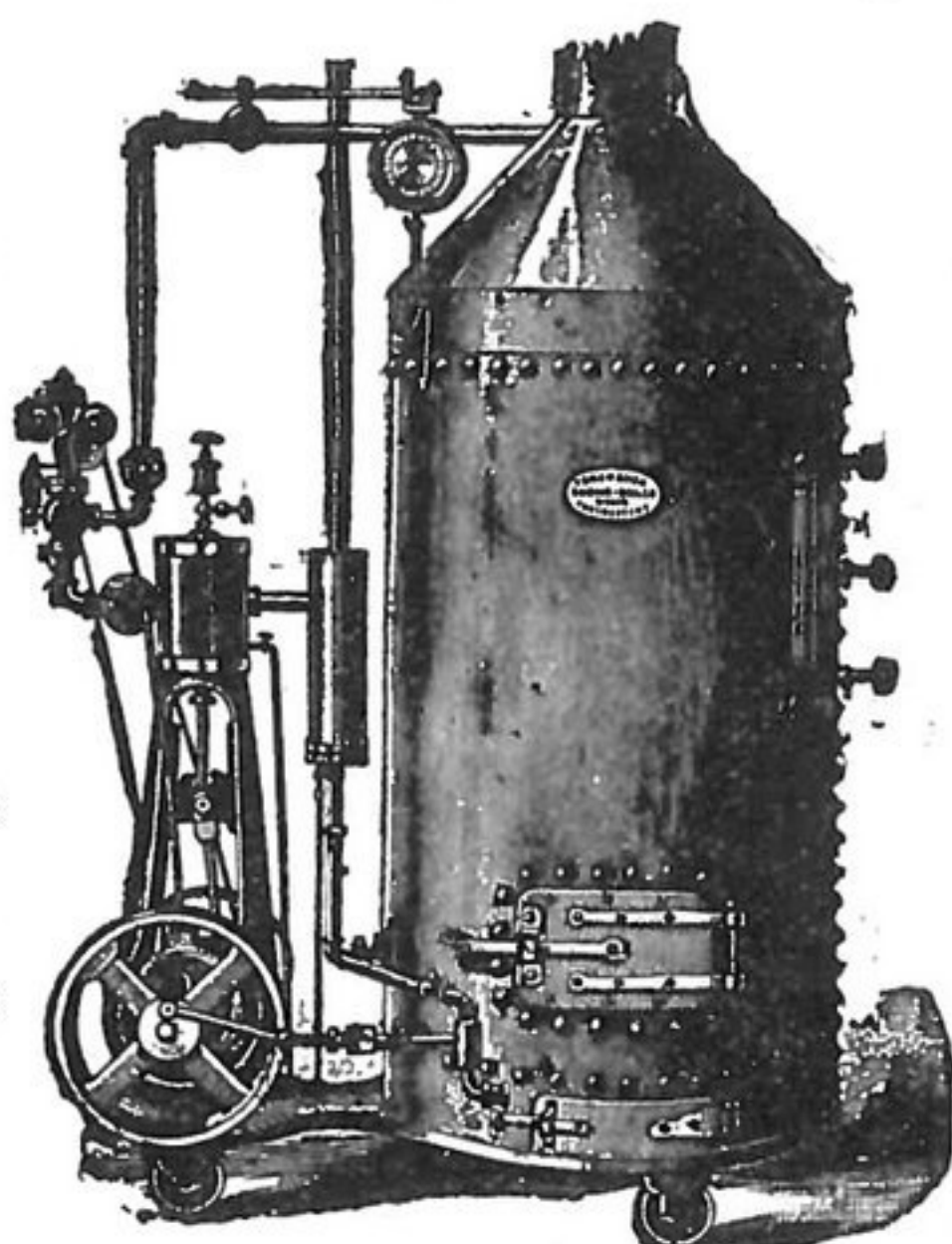
BY MAIL POSTPAID.

McFaul & Nolan, - Buffalo, N. Y.

TONAWANDA
ENGINE AND BOILER WORKS

A Large Assortment of Machinery.

The Best 6-Horse Power Semi-Portable Up-
right Engine and Boiler Made.



SPECIAL PRICE. GUARANTEED.

SEND FOR CATALOGUE.

ARMITAGE, HERSCHELL & CO.

Tonawanda N. Y.

New Improved Patent Head Linings.



DESCRIPTION.

These Linings are curved edgewise and flatwise, be-
sides having the edge beveled, so as to make them fit
the head and chine PERFECTLY, without springing
them edgewise when nailing.

If you use them once you will have NO
OTHER. No need of pounding fingers, as
the ends do not have to be held down while
nailing. They are much more convenient
to nail and look better than any other.
They are first tied in bundles of two hun-
dred, and, when dry, are put into bales,
weighing about fifty pounds each, and tied
with two strong wires, to make them handle
better and to prevent losing out in transit.

Write for prices and state about the num-
ber you use per year.

To convince you of their merit, and for
the purpose of introducing them, I will
ship a sample order of from five to ten
thousand at a REDUCED RATE.

SEND US A TRIAL ORDER. SATISFACTION
GUARANTEED.

J. H. PETERS,
Owner of Patent and Manufacturer,
COLEMAN, MICH.

The D & C
TO MACKINAC

SUMMER TOURS.

PALACE STEAMERS. LOW RATES.

Four Trips per Week Between
DETROIT, MACKINAC ISLAND
Potoskey, Sault Ste. Marie, and Lake
Huron Way Ports.

Every Week Day Between
DETROIT AND CLEVELAND
Special Sunday Trips during June, July, August and Sept.

Double Daily Line Between
CHICAGO AND ST. JOSEPH, MICH.

OUR ILLUSTRATED PAMPHLETS
Rates and Excursion Tickets will be furnished
by your Ticket Agent, or address
E. B. WHITCOMB, G. P. A., DETROIT, MICH.,
Detroit and Cleveland Steam Nav. Co.

Chemical Fire Extinguisher Co.

38 & 40 LASALLE STREET,
CHICAGO, - - ILL.

MANUFACTURERS OF THE

Only Chemical Automatic Fire Extinguisher Made

No Freezing; No Corroding; No Leaking.
Cheapness and Absolute Reliability and Re-
duction in Cost of Insurance. We also manu-
facture everything in the line of Chemical Ex-
tinguishers, from a full 100 gallon engine to a
quart Hand Fire Extinguisher, of the best
and most approved kind. One gallon of our
chemical is equal to 500 gallons of water.

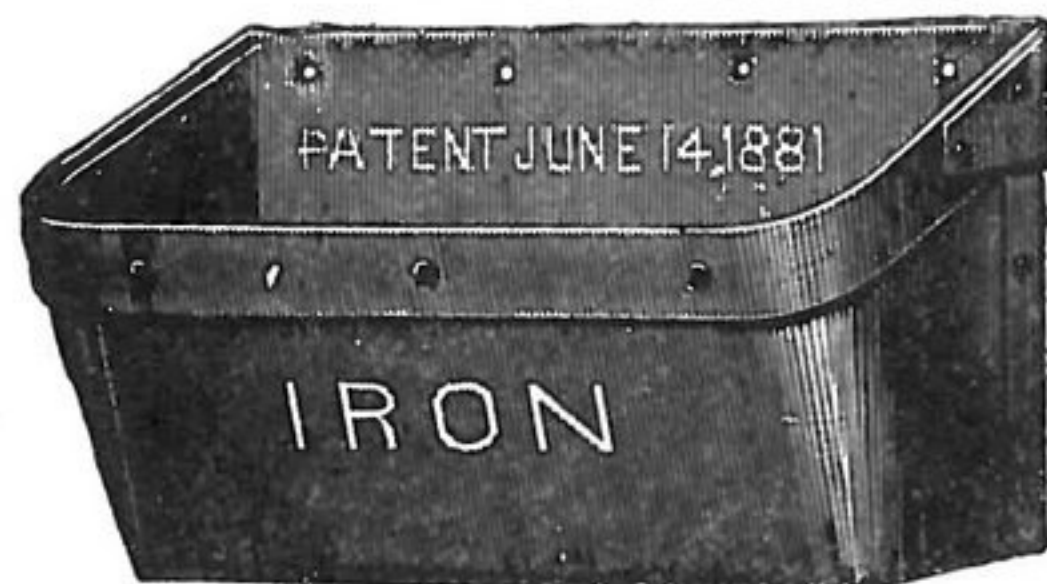
SEND FOR ILLUSTRATED CATALOGUE.



THIS WHEEL GIVES HIGH RESULTS, AND
IS ACKNOWLEDGED THE BEST, MOST PRAC-
TICAL AND EFFICIENT TURBINE MADE.
FOR SIMPLICITY, DURABILITY, AND
TIGHTNESS OF GATE IT HAS NO EQUAL.

State requirements and send for Catalogue to

T. C. ALCOTT & SON,
MOUNT HOLLY, N. J.



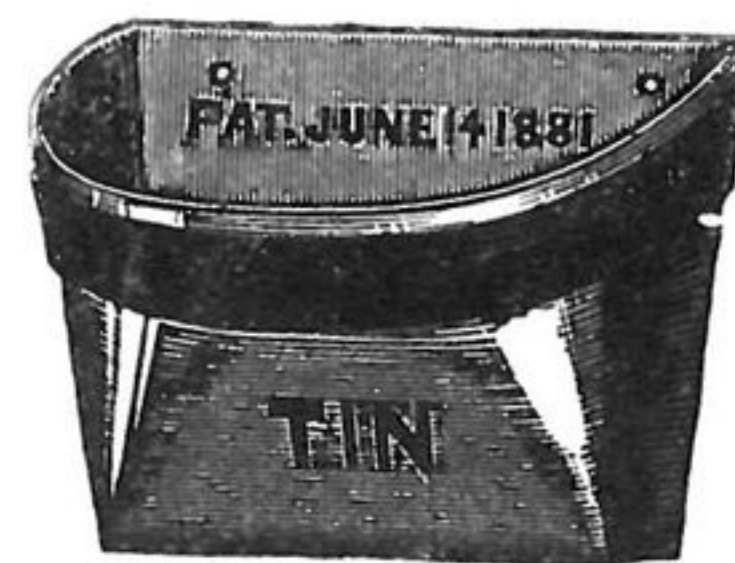
Made of sheet steel, with heavy band.

BOSS & ELEVATOR & BUCKETS.

If you are interested ask for Prices. Manufactured only by

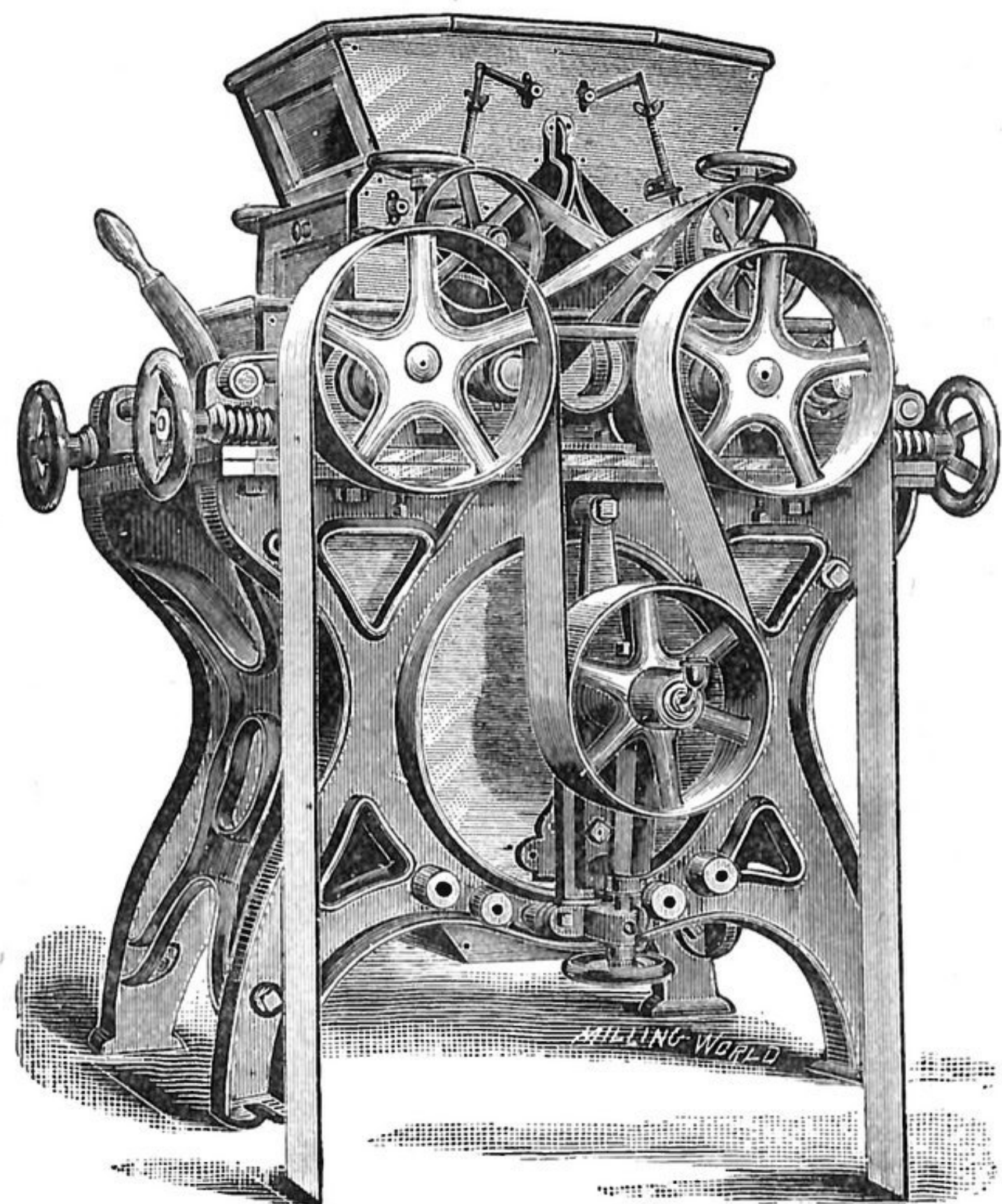
W. P. MYER, INDIANAPOLIS, IND.

16. 18 AND 20 EAST SOUTH STREET.



Made of tinned steel plate, with iron band.

JOHN HUTCHISON MFG. CO., Mill Builders and Mill Furnishers.



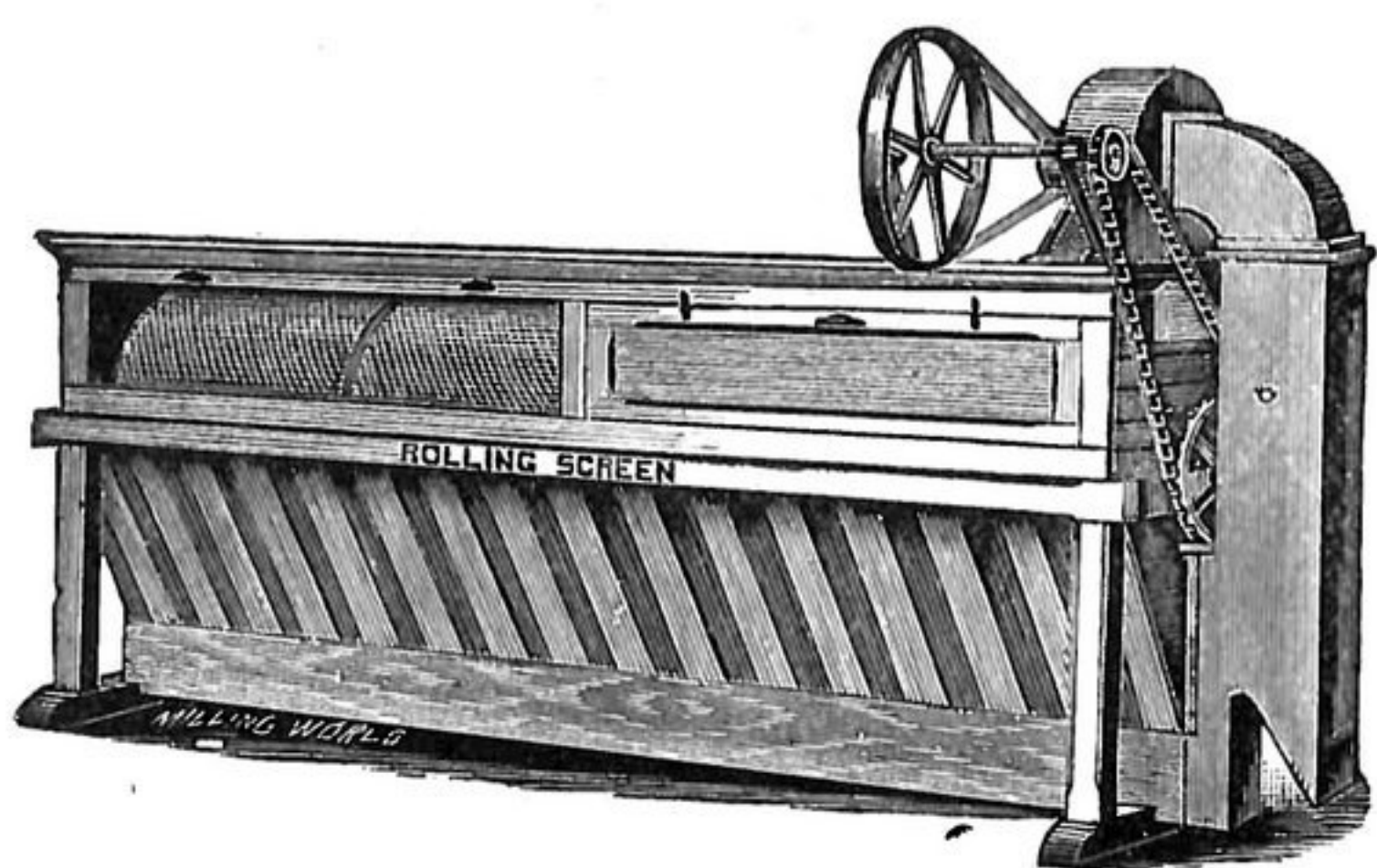
"The Rickerson." The original six inch 4 Roller Mill. We now own the patents on this mill and after greatly improving the mill manufacture them in four sizes:

6x12 inch.

6x18 inch.

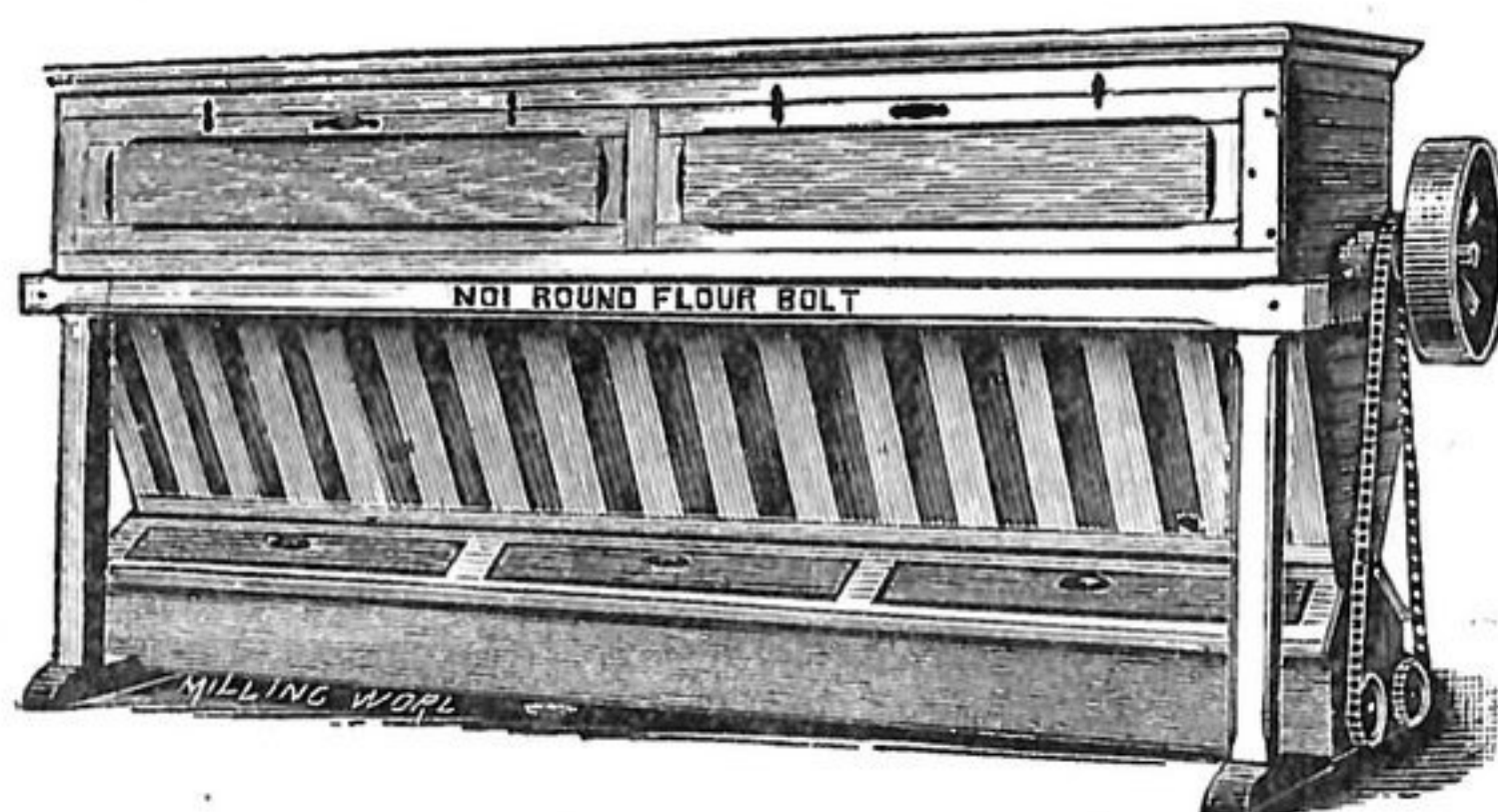
6x15 "

6x20 "

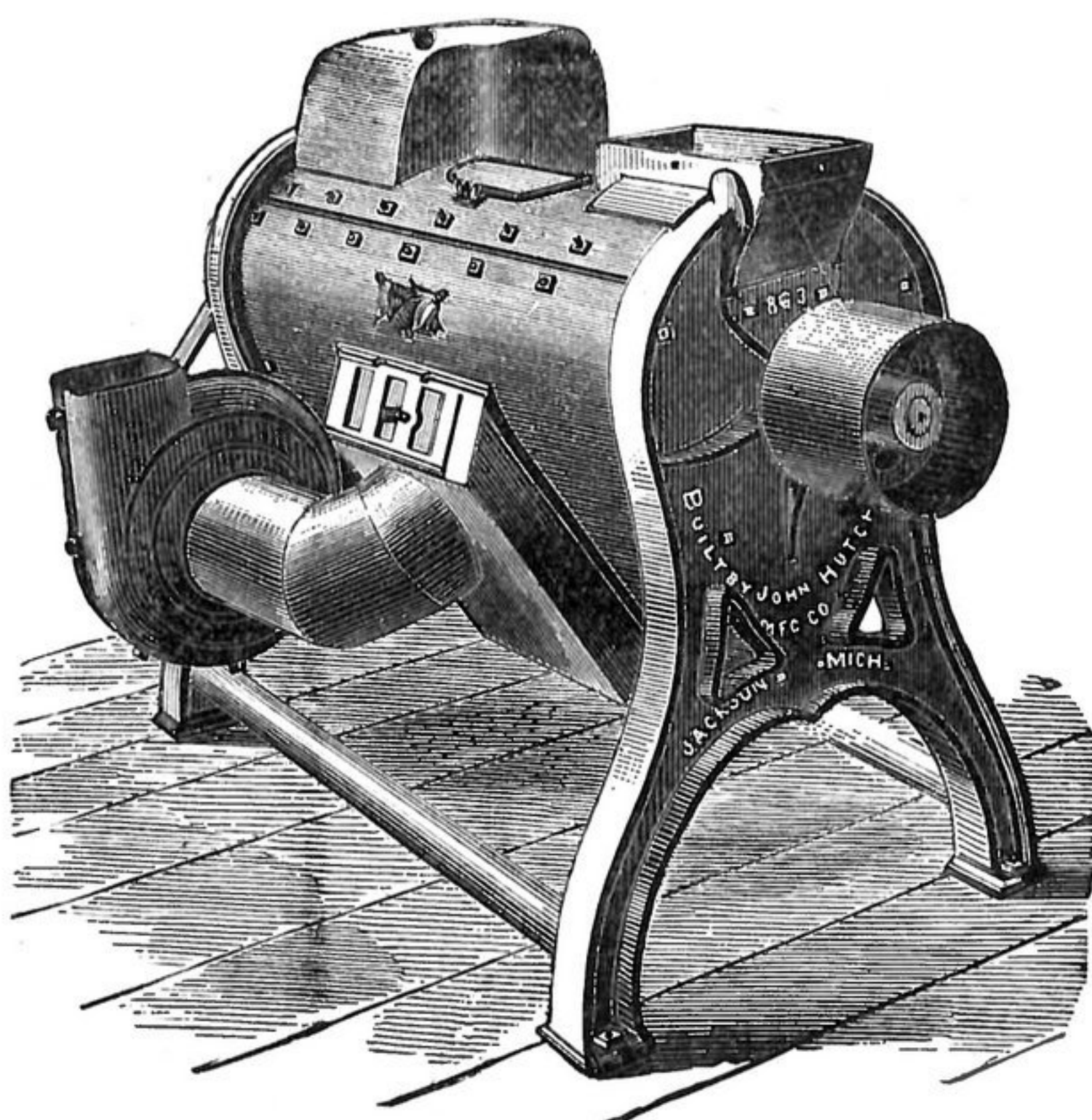


The above cut represents our New Rolling Screen, which is absolutely dustless and has as much scouring qualities as any two scouring machines now being made.

Send for Estimates for Our Full Roller Mills of any Capacity.



The above cut shows our New Round Slow Running Flour Bolt. We also build a Cylinder or Round Scalping Reel and we have lately built a number of new mills of medium capacity, using our Roller Mills, our Round Flour Bolts and Scalping Reels, getting better results than is usually obtained.



Hutchison's New Dustless Iron Corn Sheller, especially adapted for Mill and Elevator use.

—:ADDRESS ALL CORRESPONDENCE TO:—

John Hutchison Mfg. Co.

JACKSON. - - MICHIGAN.



ELEVATOR BUCKET.

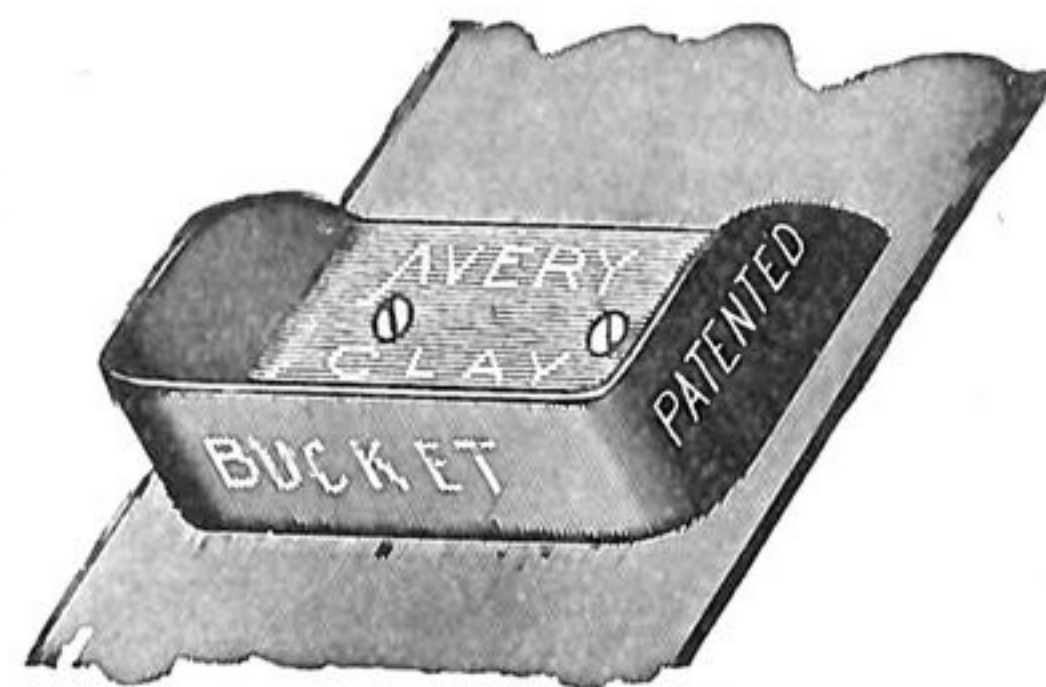
PLEASE NOTICE.

Our patents not only cover Seamless, Drawn, Stamped, Pressed or Forged Elevator Buckets; but also Pre-Date and Cover Round-Cornered Elevator Buckets when made Seamless, and are the Only patents ever issued in the World for a Pressed, Stamped, Drawn or Forged Seamless Elevator Bucket.

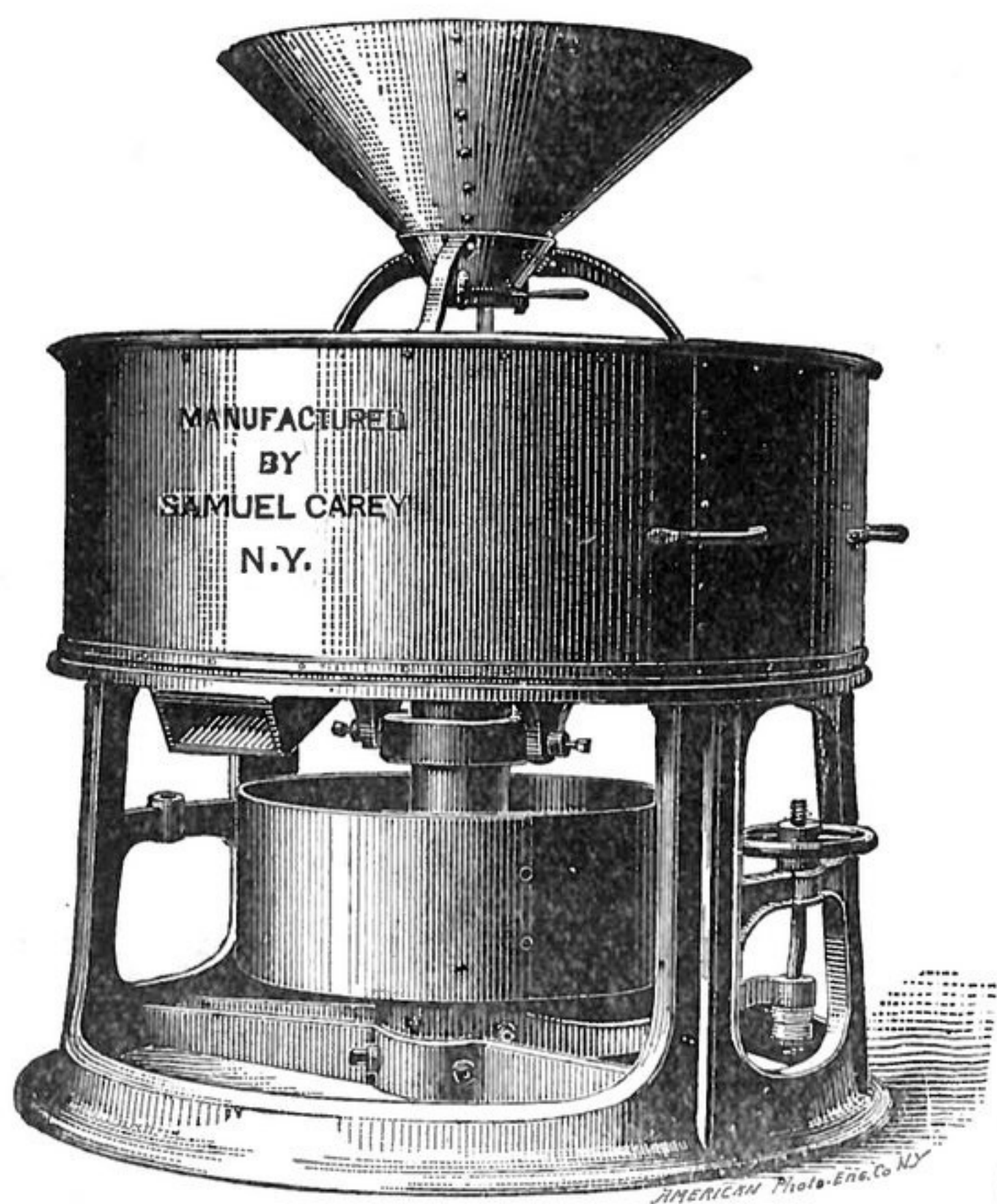
Stamping and Pressing of Sheet Metals for all Classes of Work. Also Tinning, Galvanizing and Japanning.

THE AVERY STAMPING CO.,

Successors to The Avery Elevator Bucket Co.,
Cleveland, Ohio, U. S. A.



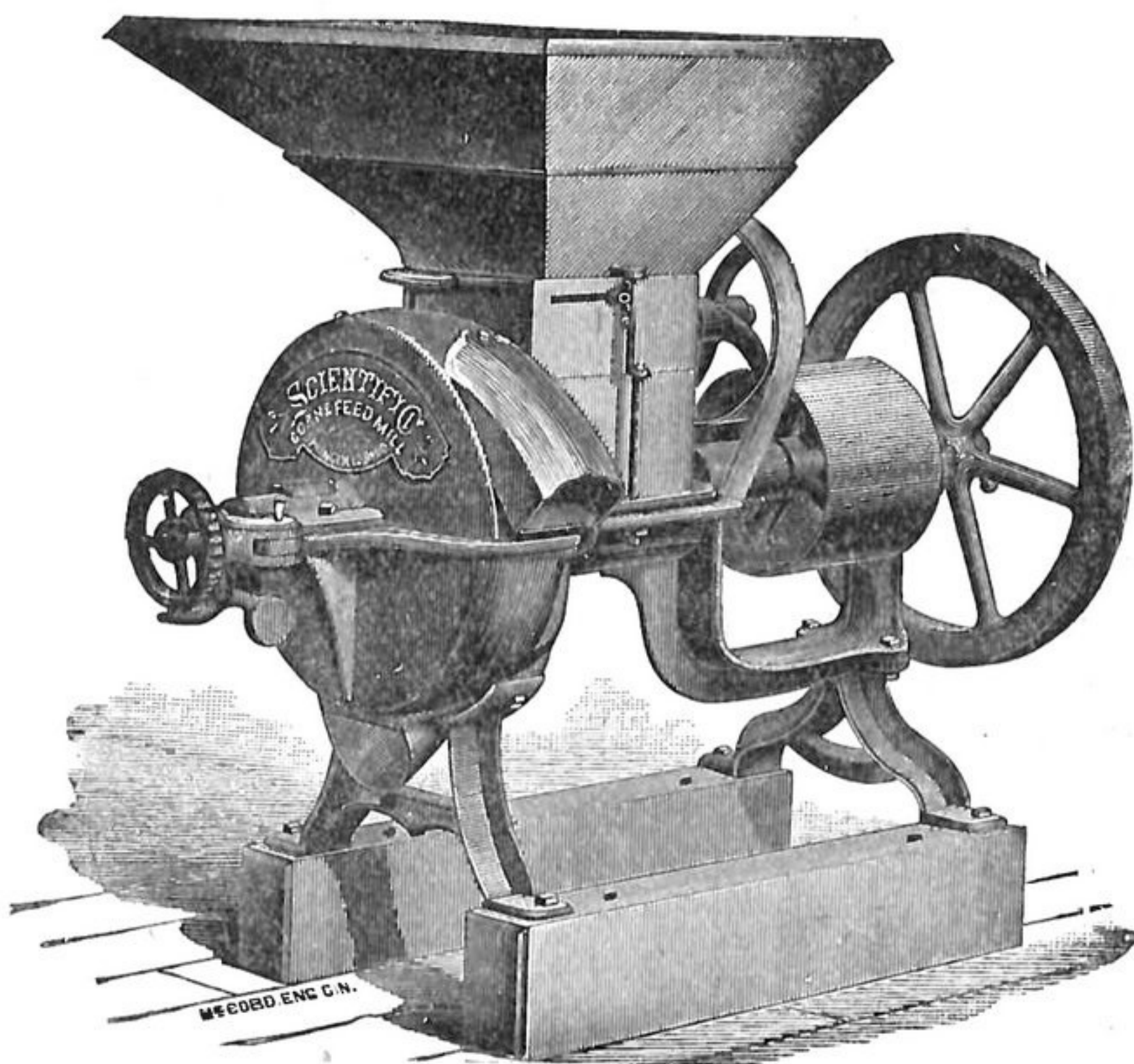
CLAY BUCKET.



SELF-TRAMMING
PORTABLE MILL
BEST GRINDING MILL MADE.
BOLTING CLOTH
WRITE FOR DISCOUNTS.
BURR MILLSTONES
CHEAP.

Send for "SPECIAL PRICES," Giving Size
Wanted, to

SAMUEL CAREY, ¹⁷ BROADWAY, NEW YORK



==THE SCIENTIFIC==
GRINDING MILL.

POSITIVELY THE BEST MILL ON EARTH.

GRINDS PERFECTLY, EAR CORN, SHELLED CORN,
AND ALL GRAINS.

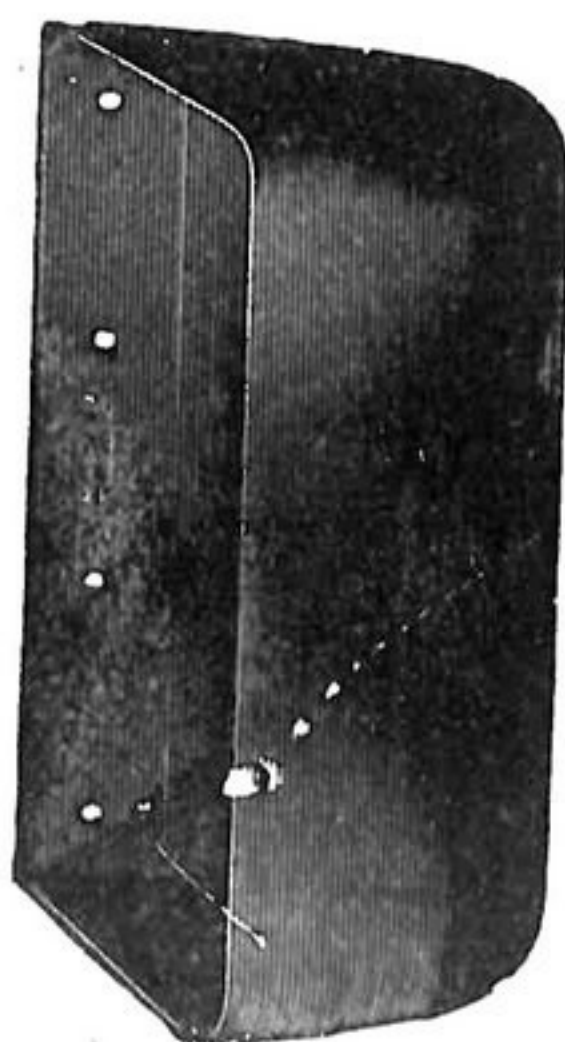
GRINDING PLATES A SPECIAL METAL

*Hard as Steel, Guaranteed to Grind from Five to Eight
Thousand Bushels before wearing out.*

SEND FOR ILLUSTRATED CATALOGUE, PRICES, ETC.

THE FOOS MFG. CO.

SPRINGFIELD OHIO.

**STILL ON TOP.**

Perhaps the HIGHEST COMPLIMENT that could be paid the "Salem" bucket is the fact that during the past few years ITS SHAPE HAS BEEN SO CLOSELY IMITATED by other manufacturers as to infringe our patented rights, but experience reveals the IMPERFECTIONS OF IMITATIONS, and we therefore take it as a FURTHER COMPLIMENT to the "SALEM" bucket that some of its old patrons who were Induced to Try the Imitations have now Returned to the Salem Bucket, thereby Acknowledging it to be the Most Satisfactory. Don't be deceived by other makes of buckets that are claimed to be "Just as Good." Insist upon having the ORIGINAL AND RELIABLE SALEM BUCKET. All legitimate Salem buckets are plainly marked with the word

SALEM

W. J. CLARK & CO., ^{SOLE} ^{Manufacturers} **SALEM, OHIO.**

THORNBURGH & GLESSNER, General Agents, CHICAGO, ILL.